



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 10:22 AM EDT

PDB ID : 6O3M
Title : Unmodified tRNA(Pro) bound to Thermus thermophilus 70S (cognate)
Authors : Hoffer, E.D.; Subaramanian, S.; Hong, S.; Maehigashi, T.; Dunham, C.M.
Deposited on : 2019-02-26
Resolution : 3.97 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : 1.13
EDS : **FAILED**
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

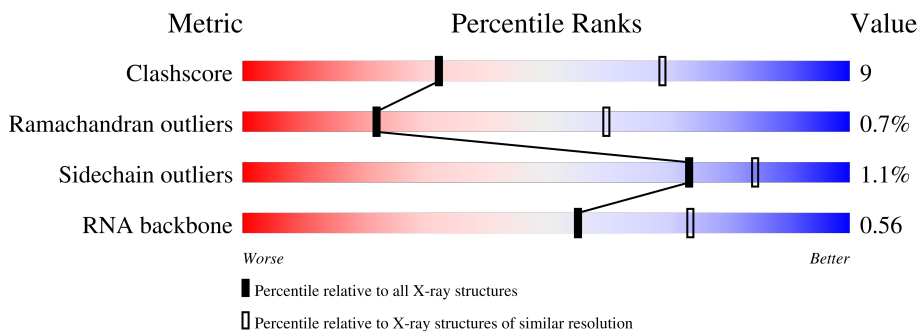
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.97 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1099 (4.26-3.70)
Ramachandran outliers	138981	1061 (4.26-3.70)
Sidechain outliers	138945	1053 (4.26-3.70)
RNA backbone	3102	1041 (4.84-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	QA	1521	
1	XA	1521	
2	QB	256	
2	XB	256	
3	QC	239	
3	XC	239	














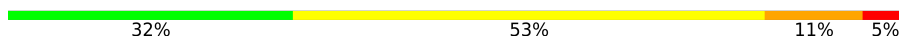











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Mol	Chain	Length	Quality of chain	
4	QD	209	72%	27%
4	XD	209	67%	30%
5	QE	162	74%	18% 7%
5	XE	162	71%	22% 7%
6	QF	101	77%	23%
6	XF	101	88%	12%
7	QG	156	72%	24% ..
7	XG	156	78%	21% ..
8	QH	138	69%	29% ..
8	XH	138	67%	30% ..
9	QI	128	67%	28% ..
9	XI	128	68%	30% ..
10	QJ	105	62%	32% 6%
10	XJ	105	61%	29% 9%
11	QK	129	69%	23% 8%
11	XK	129	71%	19% 10%
12	QL	132	68%	25% 5%
12	XL	132	72%	20% 8%
13	QM	126	60%	33% 5%
13	XM	126	67%	25% 6%
14	QN	61	70%	25% ..
14	XN	61	59%	38% ..
15	QO	89	75%	24% .
15	XO	89	80%	18% .
16	QP	88	78%	17% 5%

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Mol	Chain	Length	Quality of chain
16	XP	88	 84% 11% 5%
17	QQ	105	 81% 13% 5%
17	XQ	105	 74% 20% 5%
18	QR	88	 63% 17% 20%
18	XR	88	 63% 17% 20%
19	QS	93	 65% 25% 11%
19	XS	93	 73% 17% 10%
20	QT	106	 75% 19% 7%
20	XT	106	 72% 22% 7%
21	QU	27	 74% 19% 7%
21	XU	27	 56% 37% 7%
22	QV	77	 52% 35% 13%
22	XV	77	 58% 26% 16%
23	QX	19	 32% 53% 11% 5%
23	XX	19	 37% 58% 5%
24	RA	2915	 49% 39% 10% ..
24	YA	2915	 48% 40% 10% ..
25	RB	122	 60% 27% 10% ..
25	YB	122	 61% 25% 12% .
26	RD	276	 72% 26% .
26	YD	276	 74% 24% .
27	RE	206	 68% 30% .
27	YE	206	 71% 27% .
28	RF	210	 81% 15% .
28	YF	210	 82% 14% .


























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Mol	Chain	Length	Quality of chain	
29	RG	182	74%	24% ...
29	YG	182	68%	29% ..
30	RH	180	69%	26% ..
30	YH	180	78%	17% ..
31	RI	148	82%	16% ..
31	YI	148	85%	12% ..
32	RN	140	80%	19% .
32	YN	140	80%	18% ..
33	RO	122	74%	26%
33	YO	122	80%	20%
34	RP	150	70%	30%
34	YP	150	75%	23% .
35	RQ	141	73%	26% .
35	YQ	141	72%	26% .
36	RR	118	75%	24% ..
36	YR	118	84%	15% .
37	RS	112	71%	29% .
37	YS	112	76%	23% .
38	RT	146	70%	22% . 6%
38	YT	146	69%	23% . 6%
39	RU	118	85%	13% ..
39	YU	118	81%	17% ..
40	RV	101	74%	24% .
40	YV	101	74%	25% .
41	RW	113	79%	21%



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Mol	Chain	Length	Quality of chain
41	YW	113	 85% 14%
42	RX	96	 82% 14%
42	YX	96	 81% 15%
43	RY	110	 75% 22%
43	YY	110	 70% 27%
44	RZ	206	 67% 21% 11%
44	YZ	206	 69% 18% 11%
45	R0	85	 75% 20% 5%
45	Y0	85	 65% 22% 13%
46	R1	98	 81% 18%
46	Y1	98	 78% 17% 5%
47	R2	72	 72% 24%
47	Y2	72	 74% 22%
48	R3	60	 83% 15%
48	Y3	60	 73% 20% 5%
49	R4	71	 72% 25%
49	Y4	71	 58% 37%
50	R5	60	 72% 27%
50	Y5	60	 75% 22%
51	R6	54	 80% 19%
51	Y6	54	 67% 31%
52	R7	49	 86% 10%
52	Y7	49	 82% 16%
53	R8	65	 68% 28%
53	Y8	65	 72% 23%

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Mol	Chain	Length	Quality of chain
54	R9	37	 70% 30%
54	Y9	37	 84% 16%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
56	SF4	XD	301	-	-	X	-

2 Entry composition [i](#)

There are 57 unique types of molecules in this entry. The entry contains 291782 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	QA	1500	Total 32247	C 14353	N 5981	O 10414	P 1499	0	0	0
1	XA	1500	Total 32249	C 14354	N 5984	O 10412	P 1499	0	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	QB	235	Total 1907	C 1217	N 342	O 343	S 5	0	0	0
2	XB	236	Total 1915	C 1223	N 343	O 344	S 5	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	QC	205	Total 1605	C 1011	N 313	O 280	S 1	0	0	0
3	XC	205	Total 1605	C 1011	N 313	O 280	S 1	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	QD	208	Total 1703	C 1066	N 339	O 291	S 7	0	0	0
4	XD	208	Total 1703	C 1066	N 339	O 291	S 7	0	0	0

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			
5	XE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	QF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
6	XF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
7	XG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QH	137	Total	C	N	O	S	0	0	0
			1108	700	214	192	2			
8	XH	137	Total	C	N	O	S	0	0	0
			1108	700	214	192	2			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
9	QI	125	Total	C	N	O	0	0	0
			989	627	191	171			
9	XI	126	Total	C	N	O	0	0	0
			998	633	193	172			

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	QJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	XJ	96	Total	C	N	O	S	0	0	0
			777	487	153	136	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			
11	XK	116	Total	C	N	O	S	0	0	0
			864	537	164	160	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	QL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			
12	XL	122	Total	C	N	O	S	0	0	0
			956	603	193	159	1			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	120	Total	C	N	O	S	0	0	0
			955	591	197	165	2			
13	XM	119	Total	C	N	O	S	0	0	0
			946	585	195	164	2			

- Molecule 14 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
14	XN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	87	Total	C	N	O	S	0	0	0
			729	457	146	124	2			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	QP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			
16	XP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			
17	XQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	70	Total	C	N	O	0	0	0
			574	367	112	95			
18	XR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			
19	XS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			
20	XT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	QU	25	Total	C	N	O	0	0	0
			217	134	52	31			
21	XU	25	Total	C	N	O	0	0	0
			217	134	52	31			

- Molecule 22 is a RNA chain called P-site ASLPro.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1647	733	295	542	77			
22	XV	77	Total	C	N	O	P	0	0	0
			1647	733	295	542	77			

- Molecule 23 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QX	19	Total	C	N	O	P	0	0	0
			418	186	86	127	19			
23	XX	19	Total	C	N	O	P	0	0	0
			418	186	86	127	19			

- Molecule 24 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	RA	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			
24	YA	2883	Total	C	N	O	P	0	0	0
			62091	27636	11613	19960	2882			

- Molecule 25 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	RB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			
25	YB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

- Molecule 26 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
26	YD	272	2115	1335	420	357	3	0	0	0

- Molecule 27 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
27	RE	205	1568	991	300	271	6	0	0	0
27	YE	205	1568	991	300	271	6	0	0	0

- Molecule 28 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
28	RF	202	1585	1011	297	275	2	0	0	0
28	YF	202	1585	1011	297	275	2	0	0	0

- Molecule 29 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
29	RG	181	1474	942	268	260	4	0	0	0
29	YG	181	1474	942	268	260	4	0	0	0

- Molecule 30 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
30	RH	174	1336	848	251	236	1	0	0	0
30	YH	174	1336	848	251	236	1	0	0	0

- Molecule 31 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
31	RI	146	1136	726	201	208	1	0	0	0
31	YI	146	1136	726	201	208	1	0	0	0

- Molecule 32 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
32	RN	138	Total 1104	C 712	N 206	O 182	S 4	0	0	0
32	YN	138	Total 1104	C 712	N 206	O 182	S 4	0	0	0

- Molecule 33 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
33	RO	122	Total 933	C 588	N 171	O 170	S 4	0	0	0
33	YO	122	Total 933	C 588	N 171	O 170	S 4	0	0	0

- Molecule 34 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
34	RP	150	Total 1145	C 712	N 232	O 198	S 3	0	0	0
34	YP	147	Total 1122	C 698	N 229	O 192	S 3	0	0	0

- Molecule 35 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
35	RQ	141	Total 1122	C 715	N 212	O 188	S 7	0	0	0
35	YQ	141	Total 1122	C 715	N 212	O 188	S 7	0	0	0

- Molecule 36 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
36	RR	117	Total 960	C 599	N 202	O 159	0	0	0
36	YR	117	Total 960	C 599	N 202	O 159	0	0	0

- Molecule 37 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
37	RS	111	Total	C	N	O	0	0	0
			882	556	176	150			
37	YS	111	Total	C	N	O	0	0	0
			882	556	176	150			

- Molecule 38 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	RT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			
38	YT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

- Molecule 39 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	RU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			
39	YU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 40 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	RV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
40	YV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 41 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	RW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			
41	YW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 42 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
42	RX	92	Total	C	N	O	0	0	0
			725	471	131	123			

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
42	YX	92	725	471	131	123	0	0	0

- Molecule 43 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
43	RY	107	818	525	155	132	6	0	0	0
43	YY	107	818	525	155	132	6	0	0	0

- Molecule 44 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
44	RZ	183	1461	933	260	265	3	0	0	0
44	YZ	183	1461	933	260	265	3	0	0	0

- Molecule 45 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
45	R0	81	643	398	137	107	1	0	0	0
45	Y0	74	593	367	126	99	1	0	0	0

- Molecule 46 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
46	R1	97	763	481	150	131	1	0	0	0
46	Y1	93	729	457	145	126	1	0	0	0

- Molecule 47 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
47	R2	69	581	358	118	104	1	0	0	0
47	Y2	69	581	358	118	104	1	0	0	0

- Molecule 48 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
48	R3	59	469	298	90	81	0	0	0
48	Y3	59	469	298	90	81	0	0	0

- Molecule 49 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
49	R4	69	565	356	103	101	5	0	0	0
49	Y4	69	565	356	103	101	5	0	0	0

- Molecule 50 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
50	R5	59	459	288	90	76	5	0	0	0
50	Y5	59	459	288	90	76	5	0	0	0

- Molecule 51 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
51	R6	53	453	281	91	77	4	0	0	0
51	Y6	53	453	281	91	77	4	0	0	0

- Molecule 52 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
52	R7	47	409	251	102	54	2	0	0	0
52	Y7	48	418	257	104	55	2	0	0	0

- Molecule 53 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	R8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
53	Y8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 54 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
54	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 55 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

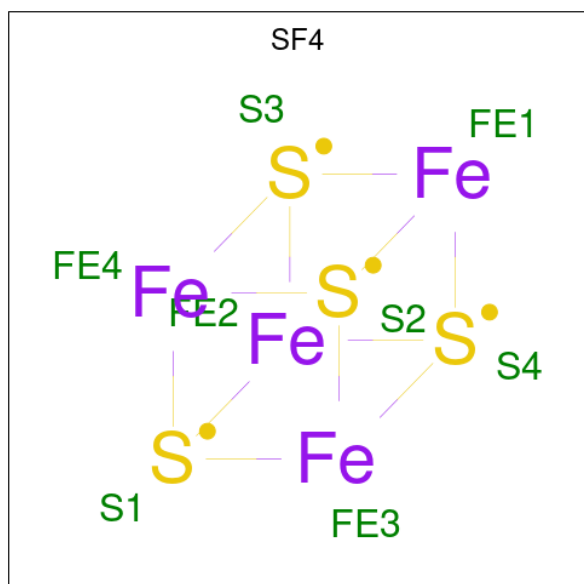
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
55	QA	69	Total	Mg	0	0
			69	69		
55	QE	1	Total	Mg	0	0
			1	1		
55	QH	1	Total	Mg	0	0
			1	1		
55	QV	1	Total	Mg	0	0
			1	1		
55	RA	381	Total	Mg	0	0
			381	381		
55	RB	9	Total	Mg	0	0
			9	9		
55	RD	1	Total	Mg	0	0
			1	1		
55	RE	1	Total	Mg	0	0
			1	1		
55	RQ	1	Total	Mg	0	0
			1	1		
55	R1	1	Total	Mg	0	0
			1	1		
55	XA	67	Total	Mg	0	0
			67	67		
55	XE	1	Total	Mg	0	0
			1	1		
55	YA	454	Total	Mg	0	0
			454	454		
55	YB	8	Total	Mg	0	0
			8	8		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
55	YD	2	Total Mg 2 2	0	0
55	YE	1	Total Mg 1 1	0	0
55	YP	1	Total Mg 1 1	0	0
55	YQ	2	Total Mg 2 2	0	0
55	YR	2	Total Mg 2 2	0	0
55	Y0	1	Total Mg 1 1	0	0
55	Y5	1	Total Mg 1 1	0	0
55	Y7	2	Total Mg 2 2	0	0

- Molecule 56 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe₄S₄).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	QD	1	Total Fe S 8 4 4	0	0
56	XD	1	Total Fe S 8 4 4	0	0

- Molecule 57 is ZINC ION (three-letter code: ZN) (formula: Zn).

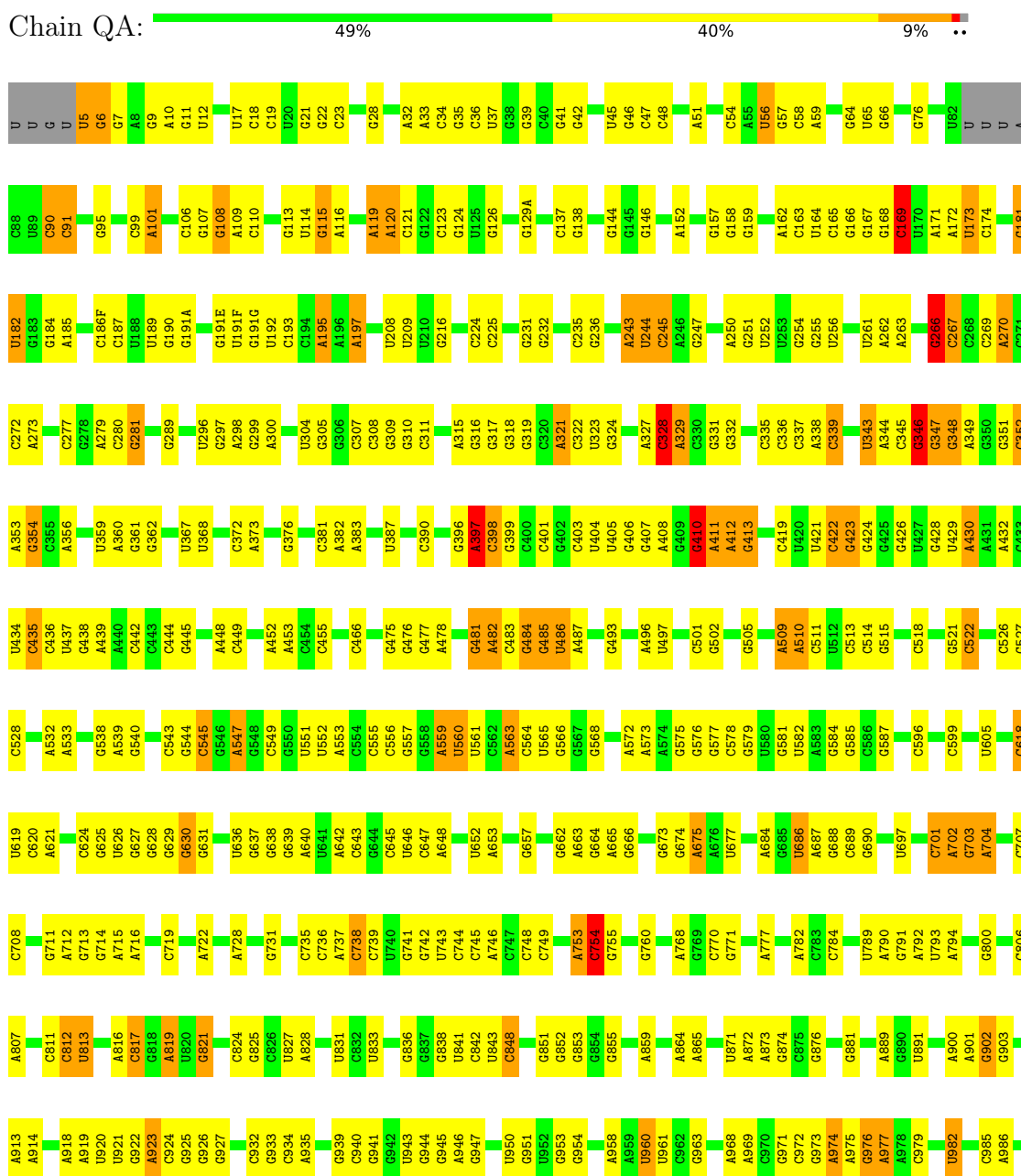
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QN	1	Total 1	Zn 1	0	0
57	RY	1	Total 1	Zn 1	0	0
57	R4	1	Total 1	Zn 1	0	0
57	R5	1	Total 1	Zn 1	0	0
57	R6	1	Total 1	Zn 1	0	0
57	R9	1	Total 1	Zn 1	0	0
57	XN	1	Total 1	Zn 1	0	0
57	YY	1	Total 1	Zn 1	0	0
57	Y4	1	Total 1	Zn 1	0	0
57	Y5	1	Total 1	Zn 1	0	0
57	Y6	1	Total 1	Zn 1	0	0
57	Y9	1	Total 1	Zn 1	0	0

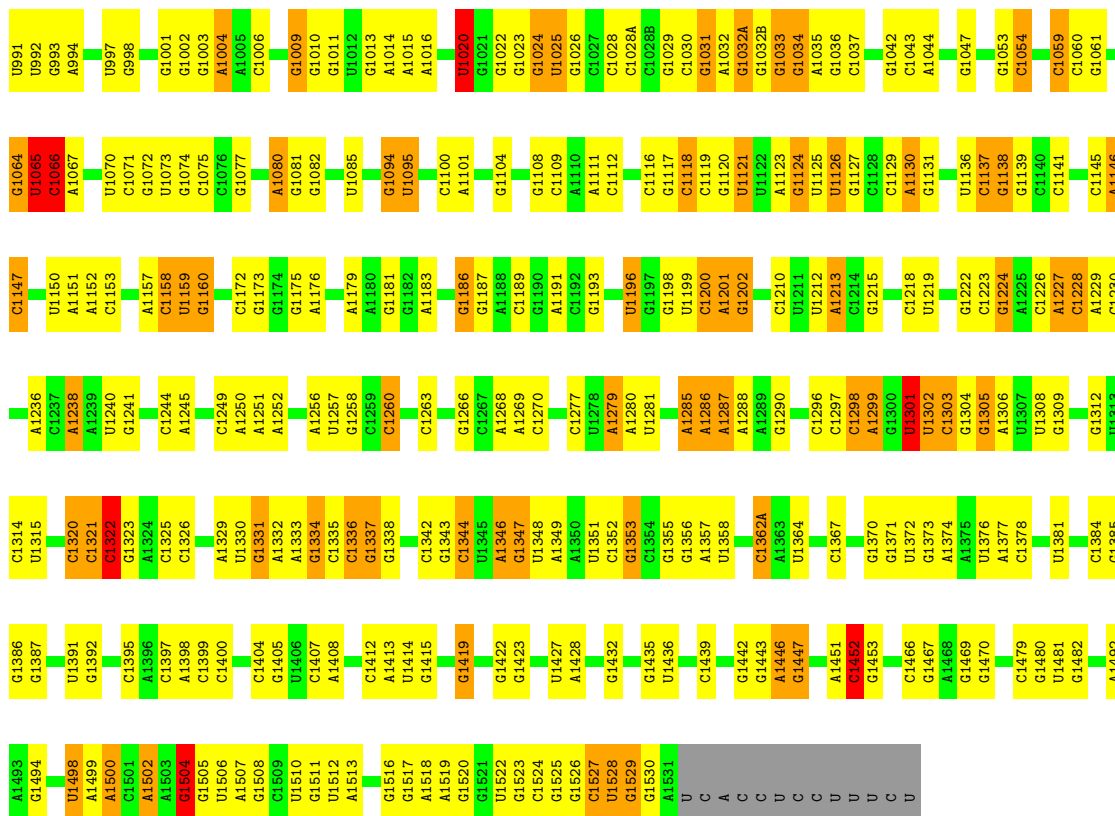
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

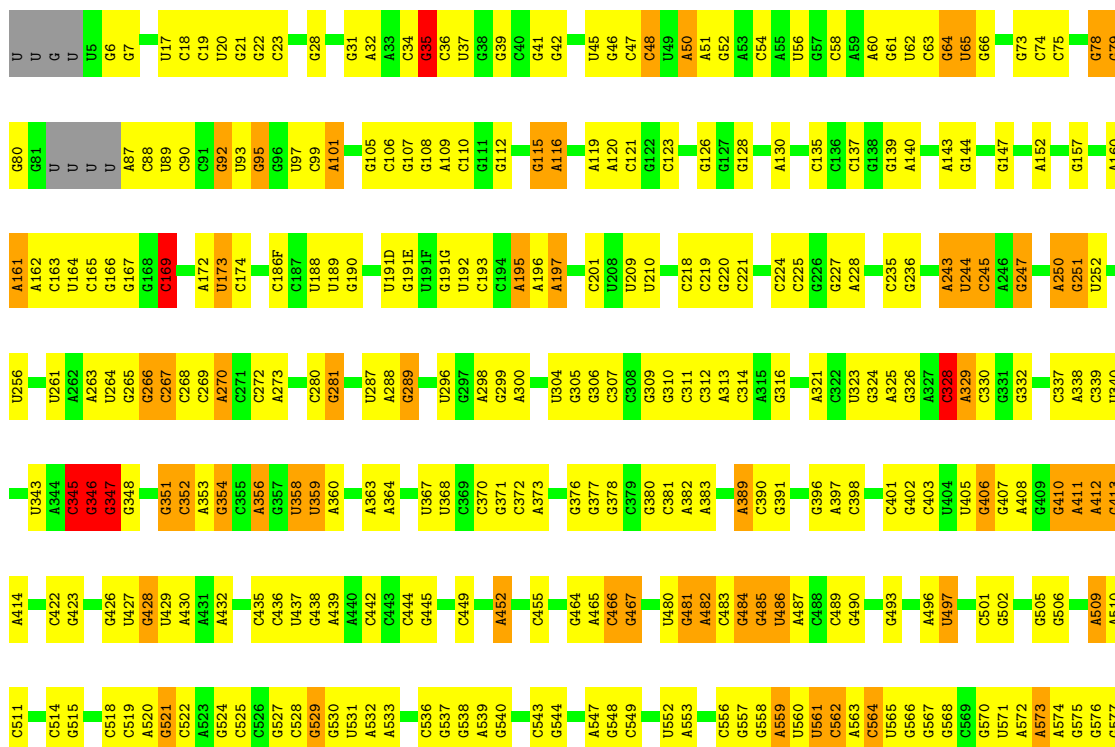
Note EDS failed to run properly.

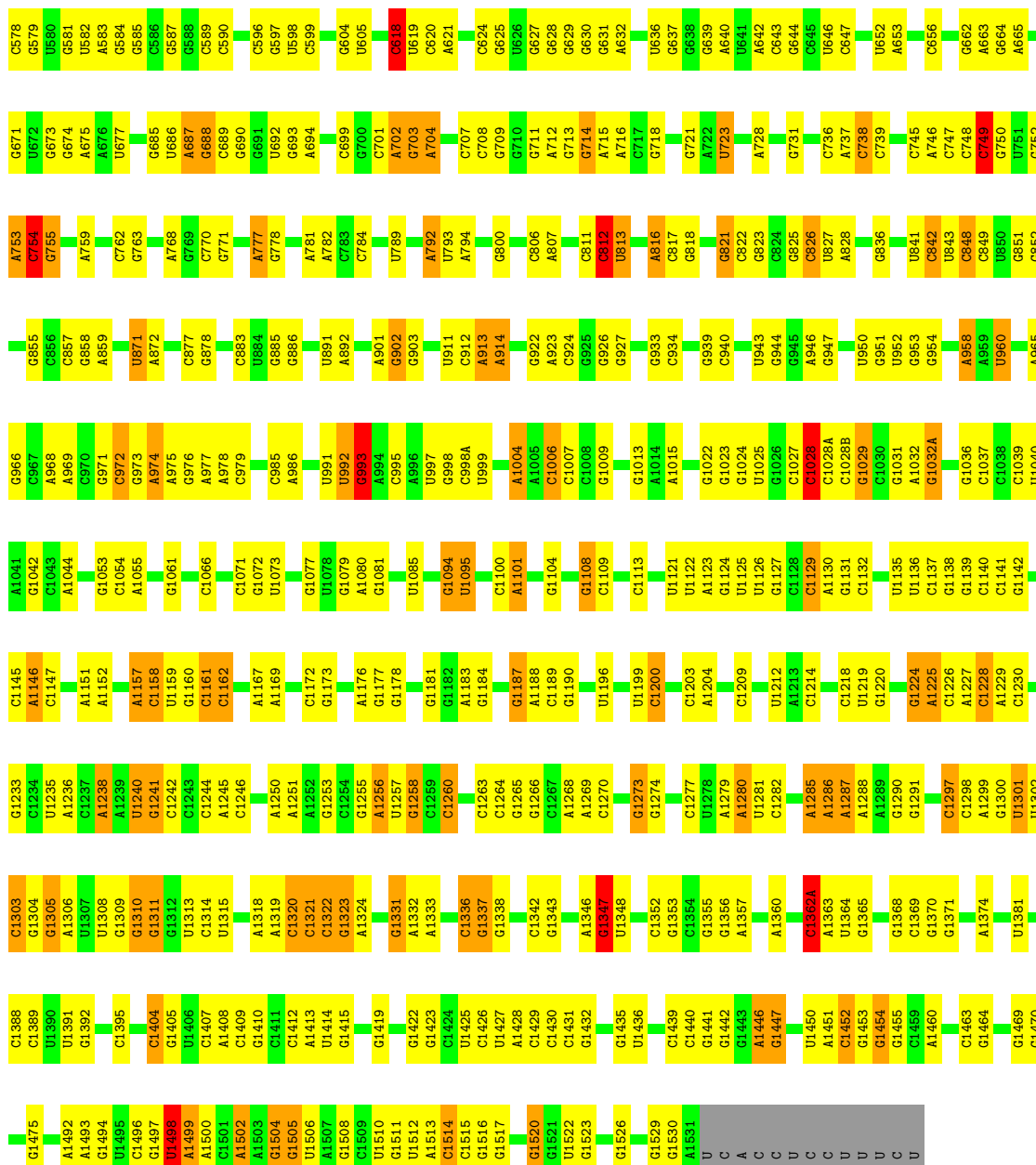
- Molecule 1: 16S rRNA



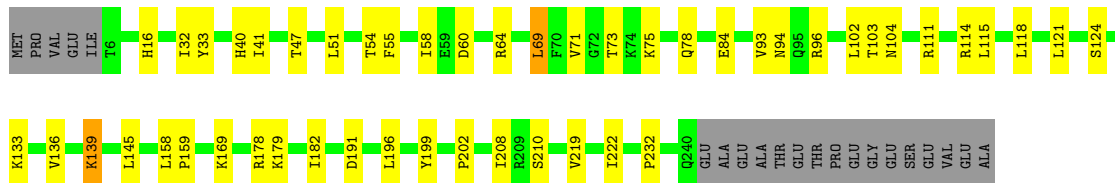
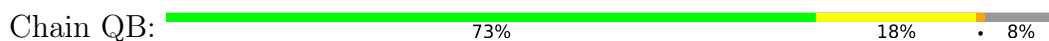


• Molecule 1: 16S rRNA

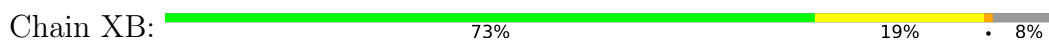


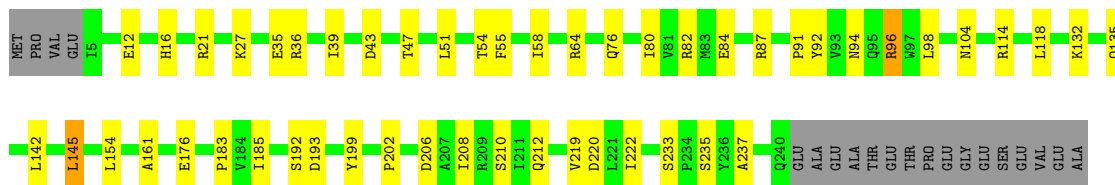


• Molecule 2: 30S ribosomal protein S2

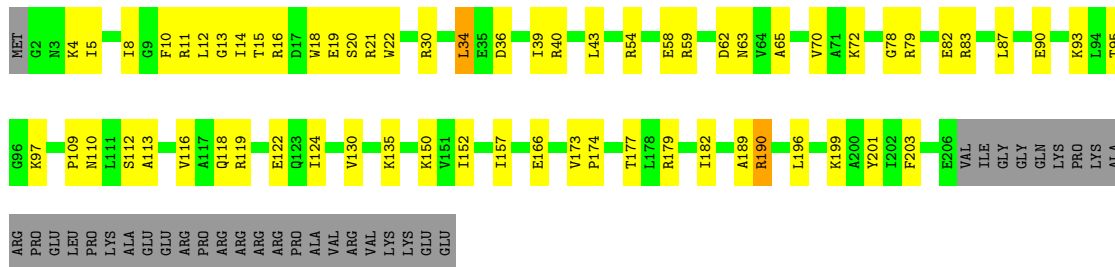


• Molecule 2: 30S ribosomal protein S2

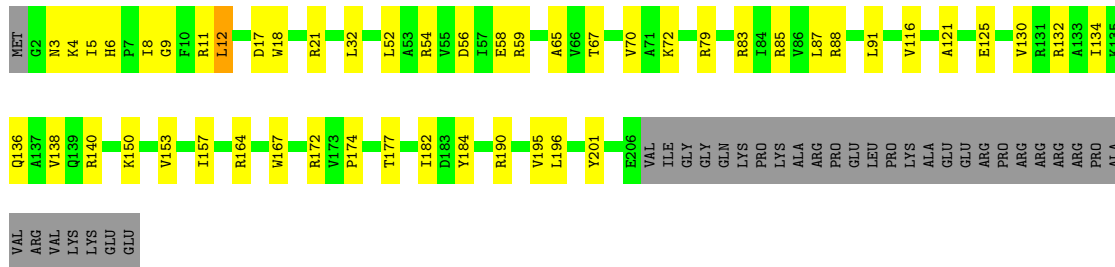




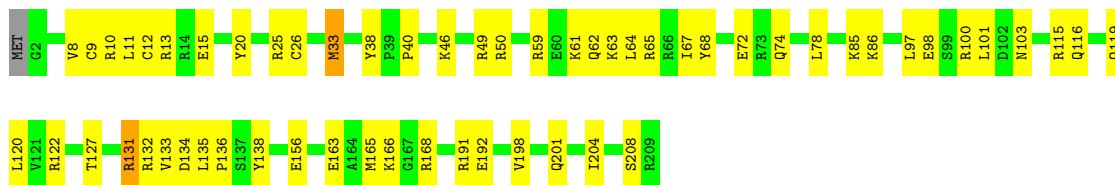
• Molecule 3: 30S ribosomal protein S3



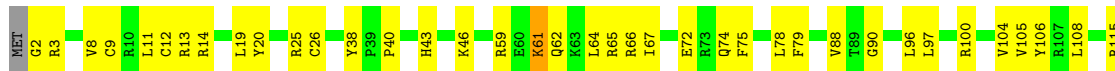
• Molecule 3: 30S ribosomal protein S3



• Molecule 4: 30S ribosomal protein S4

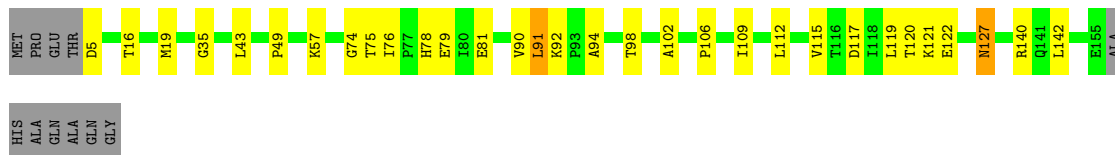
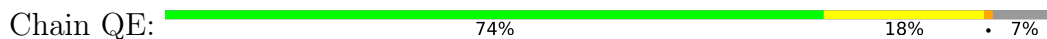


• Molecule 4: 30S ribosomal protein S4

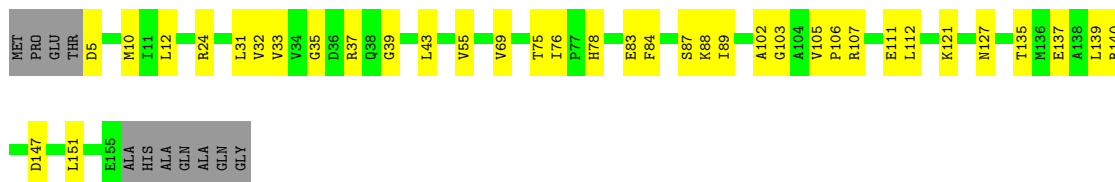




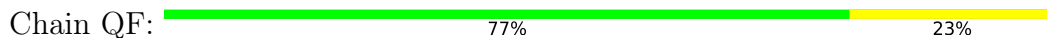
- Molecule 5: 30S ribosomal protein S5



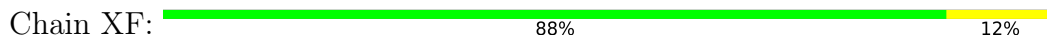
- Molecule 5: 30S ribosomal protein S5



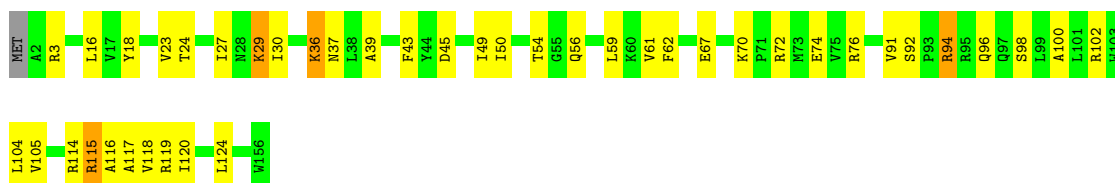
- Molecule 6: 30S ribosomal protein S6




- Molecule 6: 30S ribosomal protein S6

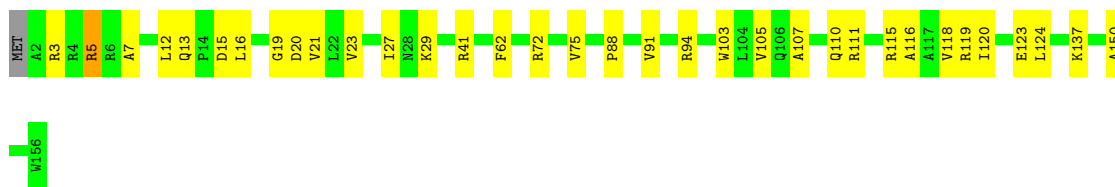


- Molecule 7: 30S ribosomal protein S7



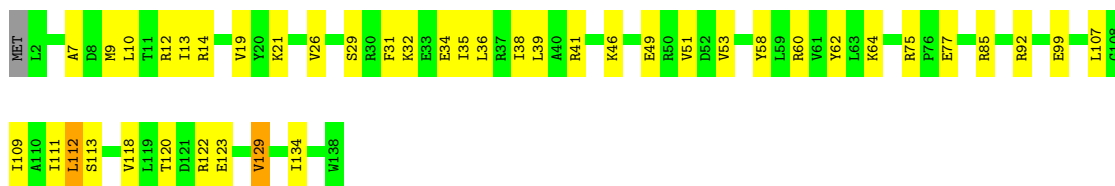
- Molecule 7: 30S ribosomal protein S7

Chain XG:  78% 21% ..



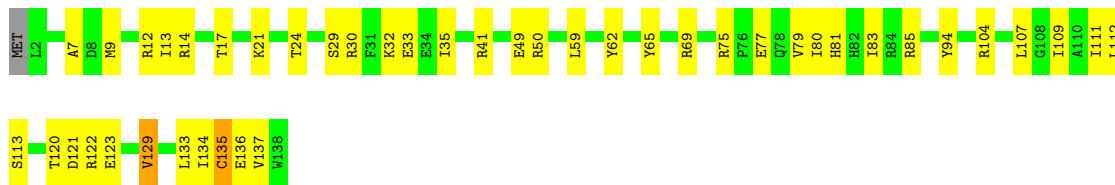
- Molecule 8: 30S ribosomal protein S8

Chain QH:  69% 29% ..



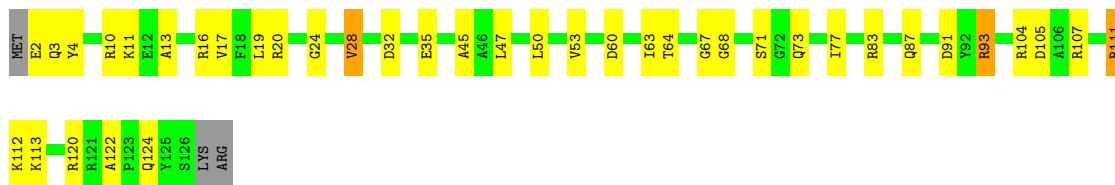
- Molecule 8: 30S ribosomal protein S8

Chain XH:  67% 30% ..



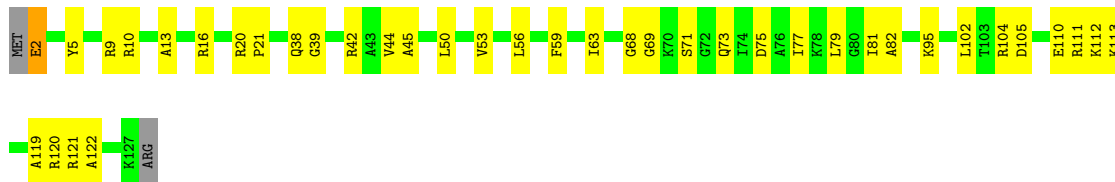
- Molecule 9: 30S ribosomal protein S9

Chain QI:  67% 28% ..




- Molecule 9: 30S ribosomal protein S9

Chain XI:  68% 30% ..



- Molecule 10: 30S ribosomal protein S10

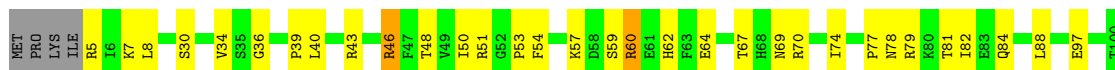
Chain QJ:  62% 32% 6%



ARG

• Molecule 10: 30S ribosomal protein S10

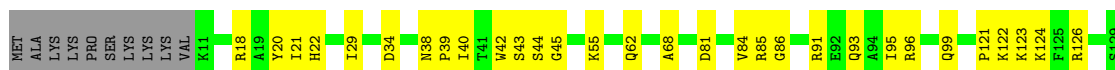
Chain XJ:  61% 29% 9%



VAL, GLY, GLY, ARG

• Molecule 11: 30S ribosomal protein S11

Chain QK:  69% 23% 8%



• Molecule 11: 30S ribosomal protein S11

Chain XK:  71% 19% 10%



• Molecule 12: 30S ribosomal protein S12

Chain QL:  68% 25% 5%



LYS, THR, ALA, LYS

• Molecule 12: 30S ribosomal protein S12

Chain XL:  72% 20% 8%



LYS, LYS

- Molecule 13: 30S ribosomal protein S13

Chain QM:  60% 33% 5%



- Molecule 13: 30S ribosomal protein S13

Chain XM:  67% 25% 6%



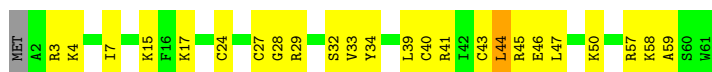
- Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:  70% 25% 2%




- Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:  59% 38% 2%




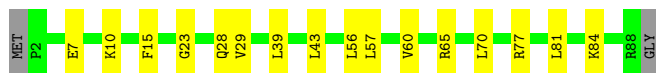
- Molecule 15: 30S ribosomal protein S15

Chain QO:  75% 24% 1%




- Molecule 15: 30S ribosomal protein S15

Chain XO:  80% 18% 2%




- Molecule 16: 30S ribosomal protein S16

Chain QP:  78% 17% 5%




- Molecule 16: 30S ribosomal protein S16

Chain XP:  84% 11% 5%




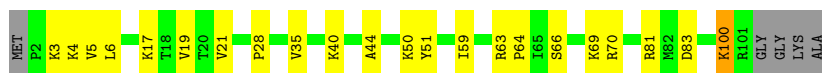
- Molecule 17: 30S ribosomal protein S17

Chain QQ:  81% 13% 5%



- Molecule 17: 30S ribosomal protein S17

Chain XQ:  74% 20% 5%



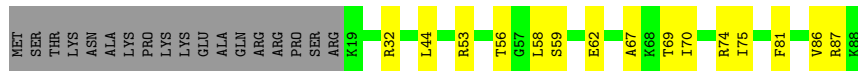
- Molecule 18: 30S ribosomal protein S18

Chain QR:  63% 17% 20%



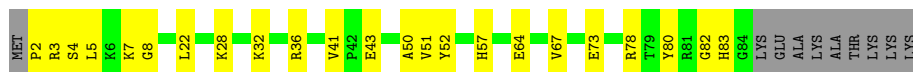
- Molecule 18: 30S ribosomal protein S18

Chain XR:  63% 17% 20%



- Molecule 19: 30S ribosomal protein S19

Chain QS:  65% 25% 11%




- Molecule 19: 30S ribosomal protein S19

Chain XS:  73% 17% 10%



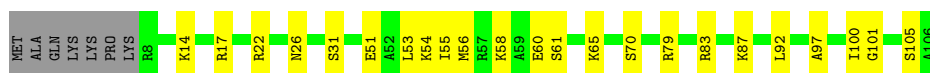
- Molecule 20: 30S ribosomal protein S20

Chain QT:  75% 19% 7%




- Molecule 20: 30S ribosomal protein S20

Chain XT:  72% 22% 7%



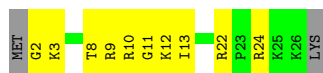
- Molecule 21: 30S ribosomal protein Thx

Chain QU:  74% 19% 7%



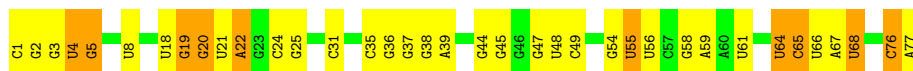
- Molecule 21: 30S ribosomal protein Thx

Chain XU:  56% 37% 7%



- Molecule 22: P-site ASLPro

Chain QV:  52% 35% 13%

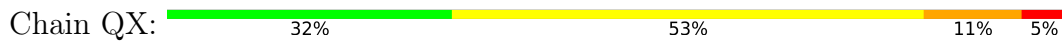


- Molecule 22: P-site ASLPro

Chain XV:  58% 26% 16%



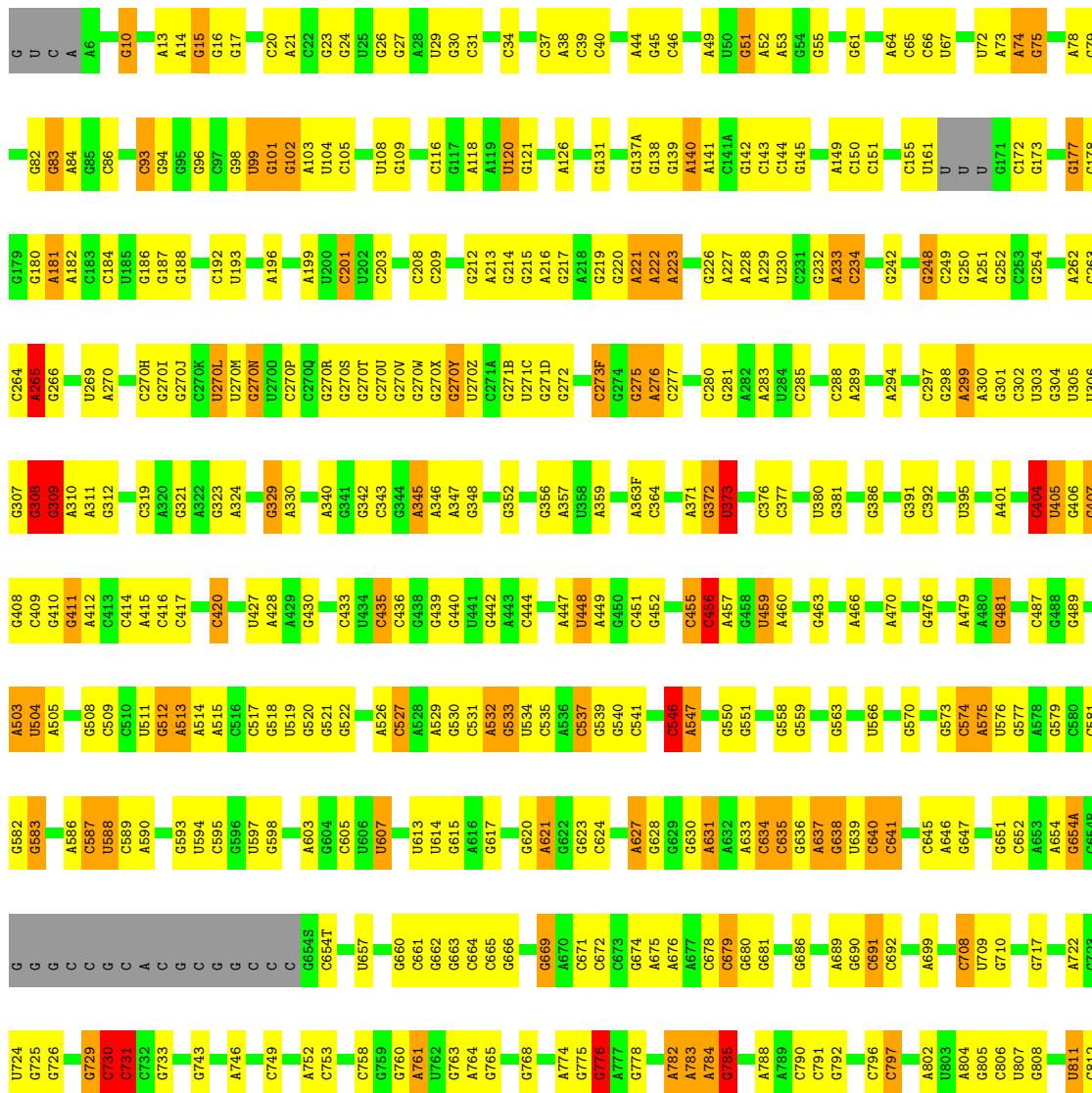
- Molecule 23: mRNA



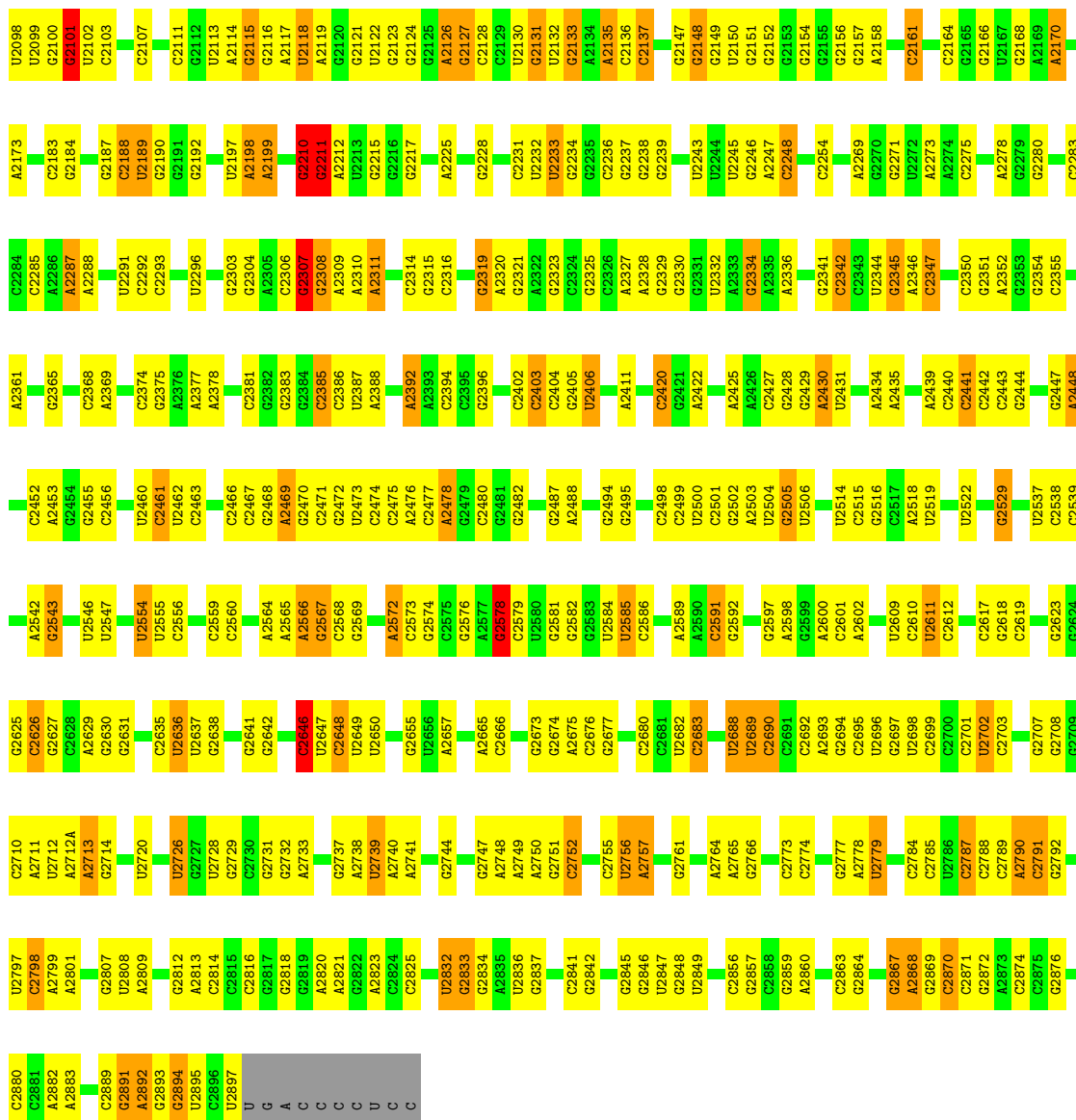
● Molecule 23: mRNA



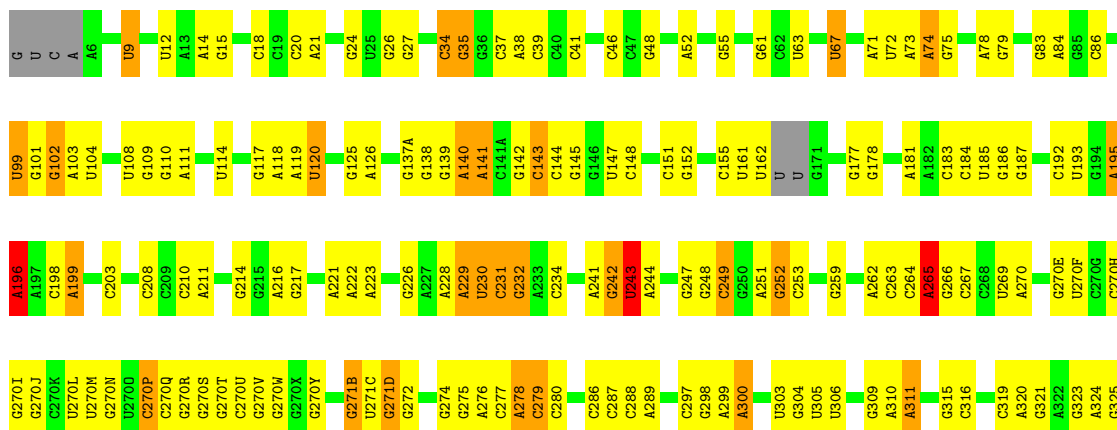
● Molecule 24: 23S rRNA



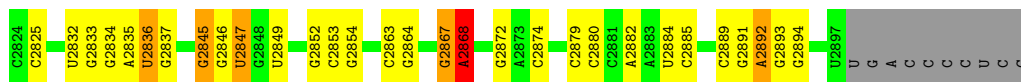
A2019	U1923	G1822	A1732	G1539	C1467	U1391	C1297	U1211	A1054	G975	C897	C815
A2020	C1924	G1823	G1733	G1540	C1468	A1392	C1298	G1212	G1055	C976	C898	C816
C2021	A1927	G1824	C1742	U1541	A1469	A1393	G1299	G1216	G1056	A950	A899	C817
G2022	A1928	G1825	G1743	G1542	A1470	A1394	U1300	A1132	A1057	A951	A900	G818
G2023	G1929	C1826	G1744	C1543	A1471	U1395	A1301	U1133	G1058	A952	C902	A819
C2025	G1930	C1827	U1629	C1544	A1472	U1396	A1302	C1220	G1059	C903	C903	U822
C2026	U1931	G1828	G1630	A1545	A1473	U1397	A1302	C1221	U1060	C904	C904	G823
A2030	A1938	G1829	G1631	A1546	C1474	C1398	G1309	G1224	U1061	C905	C905	A824
A2031	G1832	C1830	C1636	G1547	G1475	C1399	G1310	G1225	G1062	U905	U905	U822
G2032	U1939	G1831	C1637	C1548	G1478	G1400	G1311	G1226	G1063	G987	G987	G823
A2033	U1940	C1832	A1637	C1549	G1479	G1401	G1312	C1227	C1064	G988	G988	A824
C2034	C1941	G1833	G1638	C1550	G1480	C1402	U1313	A1227	U1065	G989	G989	U822
U2034	U1942	C1834	U1639	C1551	U1482	C1403	C1314	U1141	U1066	C994	C994	U827
C2035	C1947	G1835	G1640	G1552	G1483	C1404	C1315	U1142	U1067	C995	C995	U828
C2036	U1950	C1836	C1644	G1553	U1405	U1405	U1316	A1142A	A1070	C996	C996	U829
G2037	G1951	G1837	G1645	C1557	U1406	U1406	A1317	G1149	G1071	C997	C997	G830
G2038	U1952	C1838	G1646	C1558	C1407	C1407	U1321	G1150	C1072	G997	G997	G831
C2043	A1955	A1847	G1647	C1559	A1485	A1485	A1321	G1151	A1073	C998	C998	G832
U2046	U1956	A1848	C1648	G1560	G1487	C1409	U1326	C1152	G1074	C999	C999	U833
U2047	C1961	A1849	A1651	G1561	A1490	G1410	U1326	C1153	U1077	A1000	A1000	C834
G2048	G1962	G1847	G1651	G1562	C1493	G1416	U1329	G1154	U1077	A1001	A1001	A835
A2051	U1963	A1848	G1652	G1563	A1494	C1417	G1332	C1161	U1078	A1002	A1002	U839
G2052	C1964	A1849	A1654	G1566	A1495	C1418	G1333	G1162	C1079	G1002	G1002	C840
C2055	G1965	A1849	A1655	A1567	A1496	A1419	G1334	G1163	C1080	C1004	C1004	A841
C2056	U1966	A1849	A1656	A1568	A1497	U1420	U1335	G1164	U1083	C1005	C1005	C846
G2056	C1967	A1849	C1657	A1569	C1498	G1421	U1336	U1165	A1009	C1006	C1006	U847
A2057	U1968	A1849	A1657	C1570	C1499	G1422	G1337	C1166	A1010	G992	G992	G848
A2058	G1969	A1849	U1670	G1571	G1500	G1422	U1337	C1167	A1085	G993	G993	A849
A2059	A1969	A1849	U1671	A1572	C1501	G1426	U1341	G1168	A1086	U1012	U1012	C856
A2060	U1970	A1849	A1685	G1576	C1502	A1427	U1341	G1171	G1087	C1013	C1013	C857
A2061	G1971	A1849	G1686	U1577	U1503	A1428	A1349	G1173	A1088	U1019	U1019	U858
A2062	C1972	A1849	G1687	C1577	C1504	G1429	A1353	A1174	C1091	G1022	G1022	U859
G2063	G1973	A1849	A1688	U1578	C1505	C1430	A1353	U1175	C1092	U1023	U1023	U860
C2064	C1979	A1849	A1689	A1580	C1506	U1431	A1354	G1176	G945	G945	G945	A861
C2065	U1980	A1849	C1670	G1581	A1507	C1432	G1355	A1177	G946	G946	G946	G862
C2066	G1981	A1849	U1671	G1582	A1508	U1433	G1356	C1178	G947	G947	G947	A863
G2066	A1981	A1849	G1674	A1583	C1509	A1494	U1357	C1179	A1096	G1025	G1025	G864
G2067	C1982	A1849	C1675	U1584	A1510	G1435	G1358	C1181	U1097	U1026	U1026	G865
G2068	U1990	A1849	A1676	A1586	C1513	C1436	A1359	C1182	U1098	A1027	A1027	A866
G2069	C1991	A1849	A1677	U1590	U1514	C1437	A1360	G1270	G1106	G1030	G1030	G867
A2071	U1993	A1849	G1678	G1591	G1519	A1444A	C1363	G1271	U1108	U1033	U1033	U868
C2073	G1993	A1849	U1679	C1592	U1520	A1445	G1364	U1273	C1109	G1034	G1034	G869
U2074	C1996	A1849	G1681	G1594	G1522	A1449	A1365	A1278	G1110	U1035	U1035	A872
U2075	G1996	A1849	G1682	G1595	G1522	G1449A	C1370	G1279	G1113	G1036	G1036	G873
C2081	G2004	A1849	G1686	C1598	G1525	U1454	U1372	A1286	U1114	G1042	G1042	G882
A2082	A2005	A1849	U1687	C1599	G1526	U1455	U1372	A1287	G1115	C1043	C1043	G883
C2007	C2007	A1849	U1688	G1600	G1527	G1485	U1378	U1288	G1116	C1044	C1044	G884
G2008	G2008	A1849	A1698	G1601	A1528	C1458	A1379	U1289	G1117	G1045	G1045	C885
G2009	C2009	A1849	G1725	G1607	G1533	U1459	G1380	C1290	G1118	A1046	A1046	C886
G2010	U1915	A1849	G1725	A1608	C1533	A1460	A1384	C1291	G1119	U969	U969	A887
G2011	U1915	A1849	G1725	A1608	C1533	A1461	A1384	U1292	G1120	A1045	A1045	C888
G2012	G2012	A1849	G1725	A1609	C1533	C1462	G1385	U1293	C1121	C1049	C1049	C889
G2018	G2018	A1849	G1725	A1610	C1533	C1463	U1389	U1294	G1122	A1050	A1050	C890
C2087	C2087	A1849	A1729	A1610	C1533	C1464	U1390	U1295	C1123	G1051	G1051	C893
C2087	C2087	A1849	A1729	A1611	G1538	U1464	U1390	G1296	C1124	C1052	C1052	A896



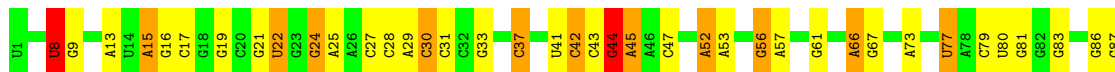
● Molecule 24: 23S rRNA



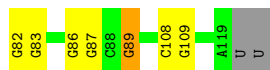
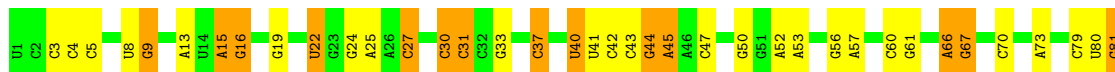
U1454	U1455	G1459	G1460	G1461	G1462	G1463	G1464	G1467	A1471	C1474	G1478	G1482	G1483	G1487	A1490	G1491	G1492	G1493	A1494	A1495	A1496	A1497	G1498	G1500	C1504	C1505	C1506	A1507	A1508	C1509	A1510	A1511	G1512	C1513	C1514	C1515	U1516	G1517	U1520	G1521	G1522	G1526	G1527	A1528	G1529	G1530																																			
C1375	C1376	G1377	A1378	A1379	A1384	G1385	A1389	U1394	A1395	U1396	U1397	C1398	C1399	G1400	G1401	C1402	C1403	C1408	C1409	G1410	A1411	U1406	A1407	C1408	G1418	A1419	U1420	G1421	G1422	G1423	G1424	G1264	C1179	C1180	G1181	A1182	U1268	A1269	A1352	A1353	A1354	G1355	G1356	A1359	A1365	G1368	A1444	A1445	A1449	G1449A																															
U1292	C1293	U1294	C1297	C1298	G1299	A1300	A1301	C1306	U1394	G1309	G1310	U1313	C1314	C1315	U1316	A1317	G1324	G1324	G1325	G1326	G1327	G1328	A1242	G1243	G1244	G1245	A1246	A1247	U1248	C1332	C1333	G1334	G1335	G1336	G1337	G1338	U1341	A1342	G1343	G1344	C1345	G1346	G1347	G1348	A1349	U1352	A1353	A1354	G1355	G1356	A1359	A1365	G1368	A1444	A1445	A1449	G1449A																								
U1130	G1131	C1135	G1136	U1137	G1138	G1139	A1140	U1141	A1142	A1143	G1149	C1150	G1151	A1155	A1156	G1157	C1158	U1159	G1160	C1161	U1167	G1168	G1169	G1173	A1174	U1175	G1176	A1177	C1178	C1179	C1180	G1181	A1182	U1268	A1269	A1352	A1353	A1354	G1355	G1356	A1359	A1365	G1368	A1444	A1445	A1449	G1449A																																		
G1056	A1057	G1058	G1059	U1060	U1061	G1062	G1063	U1064	U1065	U1066	G1067	G1068	A1069	A1070	G1071	C1072	A1073	G1074	C1075	C1076	A1077	U1078	C1079	C1080	U1081	U1082	U1083	U1084	A1085	U1086	A1087	U1088	G1089	G1093	U1094	A1095	U1096	A1103	C1104	U1105	G1106	C1109	G1110	G1111	G1112	U1113	G1114	G1122	G1123	C1124	G1125	A1126	U1127																												
C884	C885	C886	A887	C888	G889	C890	C893	A896	C897	A898	U907	A901	A902	A903	G907	A909	C912	C915	G916	A917	A918	G919	U922	C923	C924	C925	G929	U930	G931	G932	A933	C936	U937	A941	G944	G945	G946	G947	G948	C949	G950	A953	G954	C955	G956	G1047	U958	A959	A960	C961	G962																														
C814	C815	C816	C817	G818	A819	A820	A821	A822	G823	U827	U828	A829	G830	G831	C834	A835	G836	C837	C838	C839	U839	C840	A841	G842	C846	U847	G848	A849	C850	U850	G852	G853	G854	G855	C856	U858	G859	U860	U861	G862	A863	G864	C865	A866	C867	A870	U871	G875	U872	C876	G808	G809	U810	U811	G882	G883																									
C731	U740	G741	G742	G743	A746	C749	A752	C753	C754	C755	U757	C758	G759	A761	A764	G765	C766	U767	G768	G769	C770	G771	A774	G775	G776	G780	A781	A782	A783	A784	G785	C786	U694	U703	A706	G715	A716	G717	C721	A722	U723	U724	G725	G726	A727	G728	C729	U730																																	
G600	A603	G604	U607	A608	A609	G609A	C610	C611	U614	G617	G619	G620	A621	G625	A627	G628	G629	G630	A631	A632	A633	G634	C635	C636	A637	G638	U639	C641	C642	C645	A646	G647	C650	G651	A654	G654A	C654B	C658	A659	C659	C660	G662	G663	G664	C665	G666	U667	G668	G669	C672	A675	A676	C679	G680	A682	A683	G682	C683	G684	A685	G686	A689	G690	C691	C692	A694	U703	A706	G715	A716	G717	C721	A722	U723	U724	G725	G726	A727	G728	C729	U730
G520	G521	C522	G523	U524	U525	A526	C527	A528	U539	C610	G660	C661	A532	C531	A532	G533	C537	G539	C445	C446	C447	C448	A449	C450	C451	C457	G458	U459	A460	U566	U567	U568	U569	A571	A572	C468	G469	A470	C481	A482	A483	A505	G506	A507	G508	C509	C589	A590	C593	A594	C595	G596	U597	C598	G599																										
G326	G327	U328	G329	A330	A331	A332	G338	U339	A340	G352	U358	A359	G363	A363A	G363B	G363C	G363D	U363E	A363F	C364	A457	G458	C371	U373	U380	G381	U384	C385	C386	U387	G388	C392	C393	A394	U395	A401	C404	U405	G406	C409	G410	G411	A412	C413	C414	A415	C417	U419	U428	U430	U431	U432	U433	U434	U435	U436	U437	U438	U439	U440	U441	U442	U443	U444	U445	U446	U447	U448	U449	U450	U451	U452	U453	U454	U455	U456	U457	U458	U459		



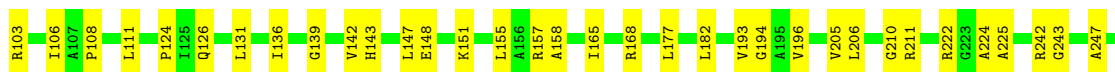
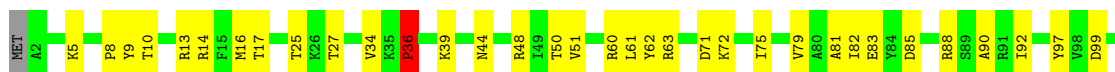
• Molecule 25: 5S rRNA



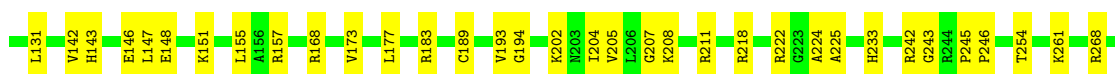
• Molecule 25: 5S rRNA



• Molecule 26: 50S ribosomal protein L2

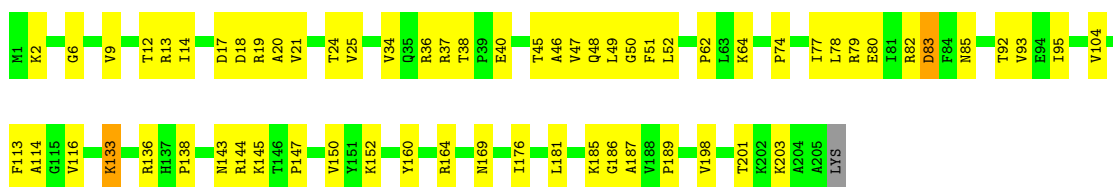


• Molecule 26: 50S ribosomal protein L2



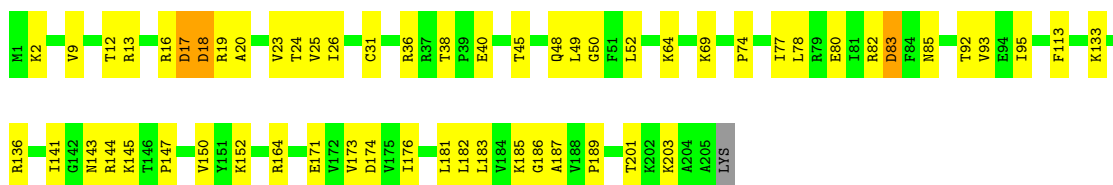
• Molecule 27: 50S ribosomal protein L3

Chain RE:  68% 30%




- Molecule 27: 50S ribosomal protein L3

Chain YE:  71% 27%




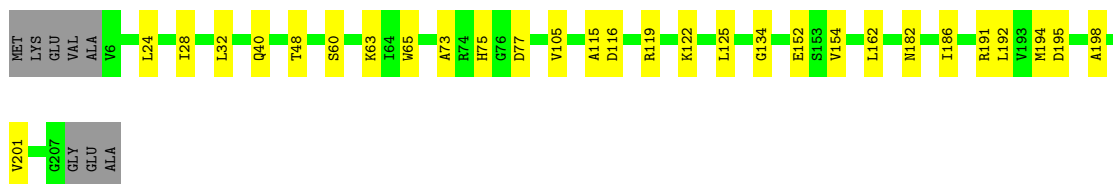
- Molecule 28: 50S ribosomal protein L4

Chain RF:  81% 15%




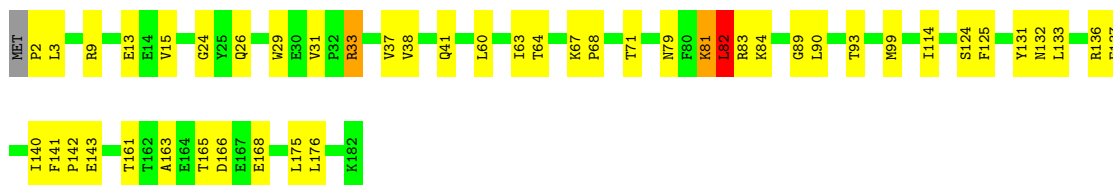
- Molecule 28: 50S ribosomal protein L4

Chain YF:  82% 14%



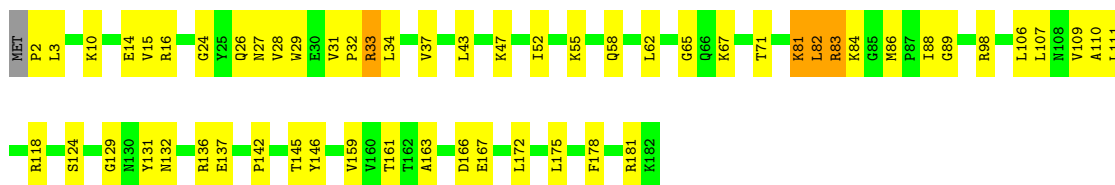
- Molecule 29: 50S ribosomal protein L5

Chain RG:  74% 24%



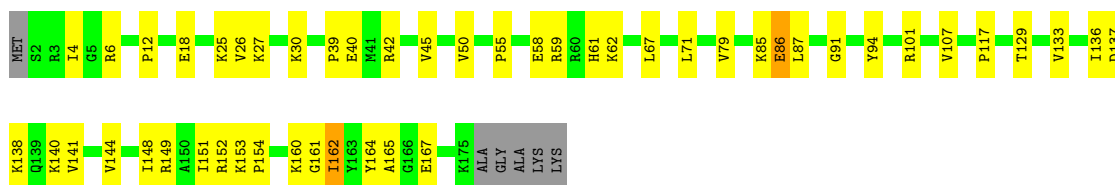
- Molecule 29: 50S ribosomal protein L5

Chain YG:  68% 29% ..




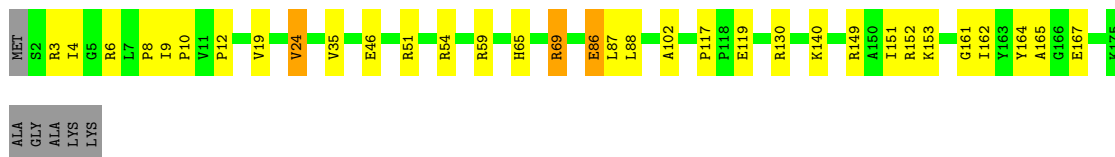
- Molecule 30: 50S ribosomal protein L6

Chain RH:  69% 26% ..




- Molecule 30: 50S ribosomal protein L6

Chain YH:  78% 17% ..




- Molecule 31: 50S ribosomal protein L9

Chain RI:  82% 16% ..




- Molecule 31: 50S ribosomal protein L9

Chain YI:  85% 12% ..




- Molecule 32: 50S ribosomal protein L13

Chain RN:  80% 19% ..




- Molecule 32: 50S ribosomal protein L13

Chain YN:  80% 18%




- Molecule 33: 50S ribosomal protein L14

Chain RO:  74% 26%



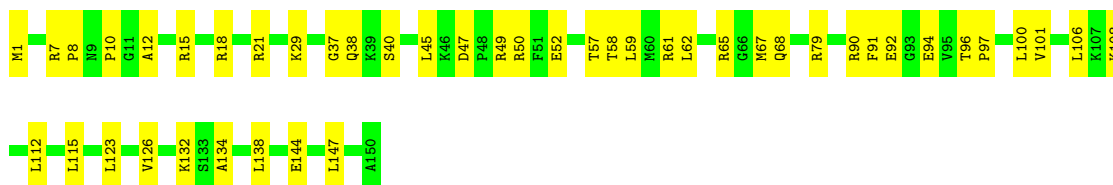
- Molecule 33: 50S ribosomal protein L14

Chain YO:  80% 20%



- Molecule 34: 50S ribosomal protein L15

Chain RP:  70% 30%




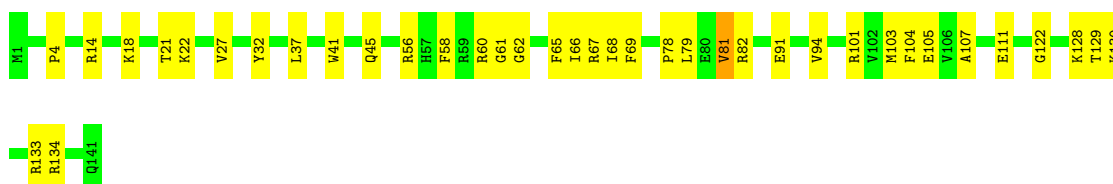
- Molecule 34: 50S ribosomal protein L15

Chain YP:  75% 23%

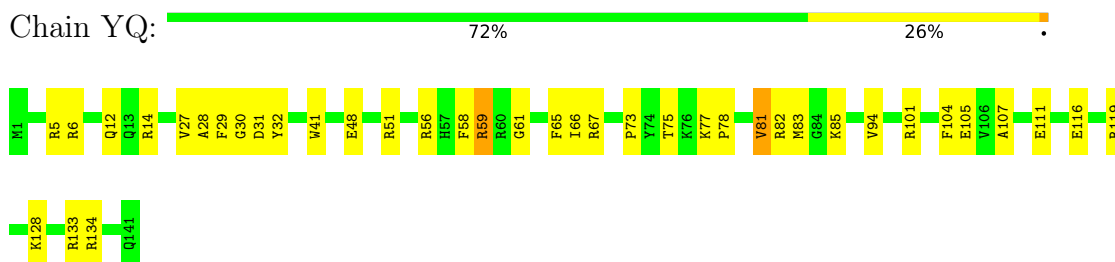


- Molecule 35: 50S ribosomal protein L16

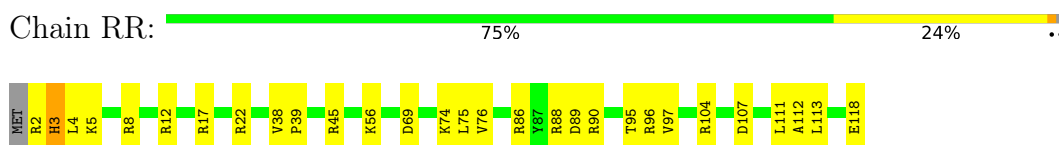
Chain RQ:  73% 26%



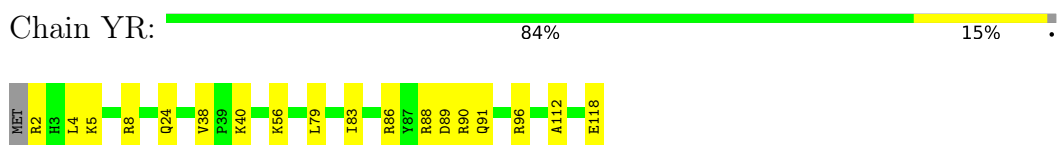
- Molecule 35: 50S ribosomal protein L16



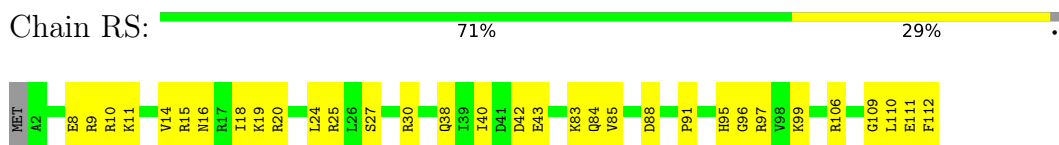
- Molecule 36: 50S ribosomal protein L17



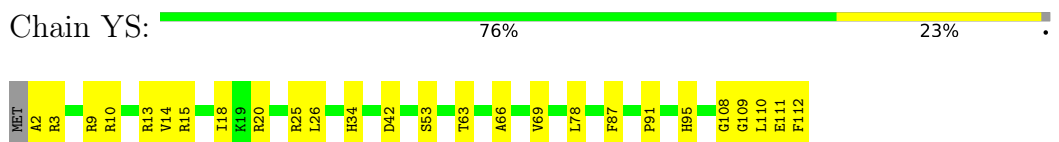
- Molecule 36: 50S ribosomal protein L17



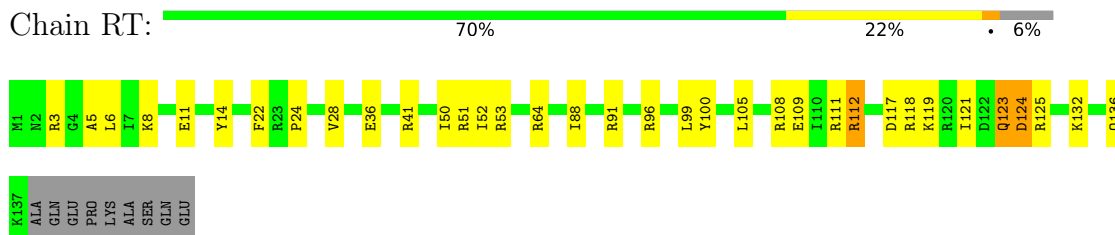
- Molecule 37: 50S ribosomal protein L18



- Molecule 37: 50S ribosomal protein L18

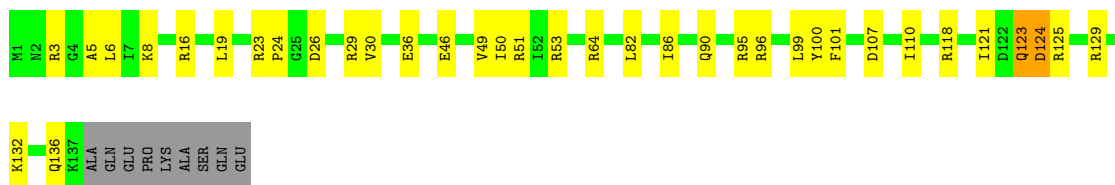


- Molecule 38: 50S ribosomal protein L19




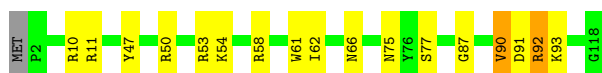
- Molecule 38: 50S ribosomal protein L19

Chain YT:  69% 23% 6%




- Molecule 39: 50S ribosomal protein L20

Chain RU:  85% 13% ..




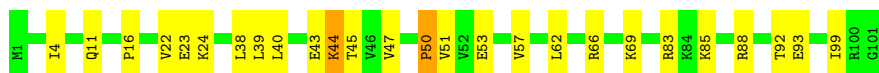
- Molecule 39: 50S ribosomal protein L20

Chain YU:  81% 17% ..




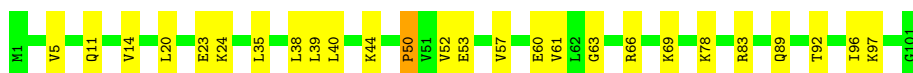
- Molecule 40: 50S ribosomal protein L21

Chain RV:  74% 24% .




- Molecule 40: 50S ribosomal protein L21

Chain YV:  74% 25% .




- Molecule 41: 50S ribosomal protein L22

Chain RW:  79% 21%




- Molecule 41: 50S ribosomal protein L22

Chain YW:  85% 14% .




- Molecule 42: 50S ribosomal protein L23

Chain RX:  82% 14%




- Molecule 42: 50S ribosomal protein L23

Chain YX:  81% 15%



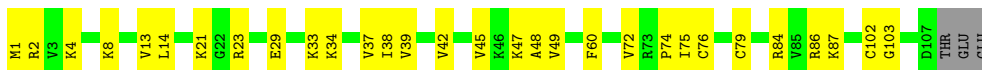
- Molecule 43: 50S ribosomal protein L24

Chain RY:  75% 22%



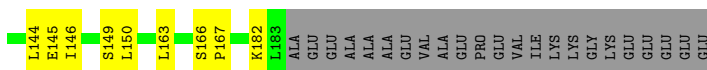
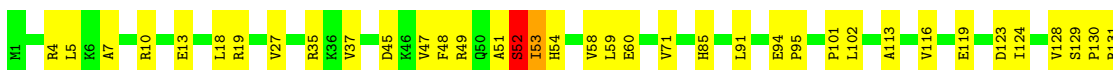
- Molecule 43: 50S ribosomal protein L24

Chain YY:  70% 27%



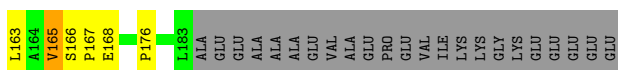
- Molecule 44: 50S ribosomal protein L25

Chain RZ:  67% 21% 11%




- Molecule 44: 50S ribosomal protein L25

Chain YZ:  69% 18% 11%



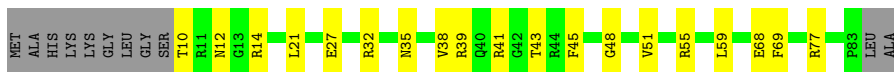
- Molecule 45: 50S ribosomal protein L27

Chain R0:  75% 20% 5%




- Molecule 45: 50S ribosomal protein L27

Chain Y0:  65% 22% 13%




- Molecule 46: 50S ribosomal protein L28

Chain R1:  81% 18%



- Molecule 46: 50S ribosomal protein L28

Chain Y1:  78% 17% 5%




- Molecule 47: 50S ribosomal protein L29

Chain R2:  72% 24%




- Molecule 47: 50S ribosomal protein L29

Chain Y2:  74% 22%



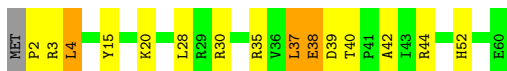
- Molecule 48: 50S ribosomal protein L30

Chain R3:  83% 15%



- Molecule 48: 50S ribosomal protein L30

Chain Y3:  73% 20% 5%



• Molecule 49: 50S ribosomal protein L31

Chain R4:  72% 25%



• Molecule 49: 50S ribosomal protein L31

Chain Y4:  58% 37%




• Molecule 50: 50S ribosomal protein L32

Chain R5:  72% 27%




• Molecule 50: 50S ribosomal protein L32

Chain Y5:  75% 22%



• Molecule 51: 50S ribosomal protein L33

Chain R6:  80% 19%




• Molecule 51: 50S ribosomal protein L33

Chain Y6:  67% 31%




• Molecule 52: 50S ribosomal protein L34

Chain R7:  86% 10%



- Molecule 52: 50S ribosomal protein L34

Chain Y7:  82% 16%



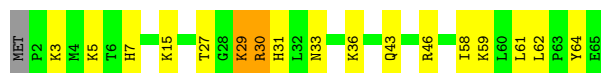
- Molecule 53: 50S ribosomal protein L35

Chain R8:  68% 28%



- Molecule 53: 50S ribosomal protein L35

Chain Y8:  72% 23%




- Molecule 54: 50S ribosomal protein L36

Chain R9:  70% 30%



- Molecule 54: 50S ribosomal protein L36

Chain Y9:  84% 16%



4 Data and refinement statistics

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	209.97Å 450.71Å 619.40Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.82 – 3.97	Depositor
% Data completeness (in resolution range)	98.7 (49.82-3.97)	Depositor
R_{merge}	0.33	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.36 (at 4.00Å)	Xtrriage
Refinement program	PHENIX 1.14_3260	Depositor
R, R_{free}	0.228 , 0.255	Depositor
Wilson B-factor (Å ²)	146.0	Xtrriage
Anisotropy	0.246	Xtrriage
L-test for twinning ²	$\langle L \rangle = 0.41$, $\langle L^2 \rangle = 0.24$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	291782	wwPDB-VP
Average B, all atoms (Å ²)	177.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.93% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, SF4, MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	QA	0.59	0/36098	1.09	116/56341 (0.2%)
1	XA	0.59	0/36101	1.09	126/56346 (0.2%)
2	QB	0.44	0/1942	0.69	1/2619 (0.0%)
2	XB	0.46	0/1950	0.68	0/2630
3	QC	0.46	0/1629	0.72	0/2195
3	XC	0.44	0/1629	0.72	0/2195
4	QD	0.47	1/1733 (0.1%)	0.67	0/2318
4	XD	0.53	1/1733 (0.1%)	0.65	0/2318
5	QE	0.46	1/1171 (0.1%)	0.68	1/1576 (0.1%)
5	XE	0.45	0/1171	0.69	0/1576
6	QF	0.46	0/856	0.69	0/1154
6	XF	0.41	0/856	0.66	0/1154
7	QG	0.46	0/1276	0.67	0/1709
7	XG	0.45	0/1276	0.70	0/1709
8	QH	0.45	0/1128	0.64	1/1517 (0.1%)
8	XH	0.41	0/1128	0.63	0/1517
9	QI	0.46	0/1008	0.77	3/1354 (0.2%)
9	XI	0.45	0/1017	0.79	2/1365 (0.1%)
10	QJ	0.45	0/814	0.69	1/1095 (0.1%)
10	XJ	0.46	0/790	0.71	0/1063
11	QK	0.42	0/900	0.59	0/1213
11	XK	0.42	0/879	0.66	0/1187
12	QL	0.44	0/991	0.69	0/1327
12	XL	0.43	0/972	0.70	0/1301
13	QM	0.46	0/965	0.74	0/1292
13	XM	0.49	0/956	0.83	1/1281 (0.1%)
14	QN	0.42	0/501	0.70	1/664 (0.2%)
14	XN	0.51	0/501	0.76	1/664 (0.2%)
15	QO	0.40	0/745	0.56	0/992
15	XO	0.41	0/740	0.62	0/987
16	QP	0.46	0/721	0.63	0/970
16	XP	0.43	0/721	0.70	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QQ	0.38	0/847	0.61	0/1131
17	XQ	0.39	0/847	0.63	0/1131
18	QR	0.40	0/579	0.61	0/768
18	XR	0.44	0/579	0.65	0/768
19	QS	0.39	0/680	0.74	1/915 (0.1%)
19	XS	0.46	0/689	0.75	0/926
20	QT	0.37	0/765	0.61	0/1007
20	XT	0.49	0/765	0.75	0/1007
21	QU	0.41	0/221	0.68	0/288
21	XU	0.40	0/221	0.71	0/288
22	QV	0.47	1/1840 (0.1%)	1.02	6/2866 (0.2%)
22	XV	0.42	1/1840 (0.1%)	1.02	9/2866 (0.3%)
23	QX	0.28	0/470	0.86	1/733 (0.1%)
23	XX	0.33	0/470	0.90	0/733
24	RA	0.76	1/69521 (0.0%)	1.14	353/108529 (0.3%)
24	YA	0.89	3/69543 (0.0%)	1.17	381/108563 (0.4%)
25	RB	0.56	0/2878	1.14	22/4490 (0.5%)
25	YB	0.78	0/2878	1.19	15/4490 (0.3%)
26	RD	0.51	0/2165	0.71	2/2919 (0.1%)
26	YD	0.53	0/2165	0.68	2/2919 (0.1%)
27	RE	0.45	0/1601	0.72	0/2160
27	YE	0.47	0/1601	0.68	0/2160
28	RF	0.49	0/1620	0.64	0/2194
28	YF	0.55	0/1620	0.66	0/2194
29	RG	0.44	0/1499	0.73	0/2016
29	YG	0.46	0/1499	0.73	0/2016
30	RH	0.48	0/1362	0.75	0/1841
30	YH	0.49	0/1362	0.74	0/1841
31	RI	0.43	0/1151	0.76	0/1558
31	YI	0.46	0/1151	0.76	1/1558 (0.1%)
32	RN	0.42	0/1131	0.67	0/1525
32	YN	0.50	0/1131	0.69	0/1525
33	RO	0.52	0/943	0.67	0/1269
33	YO	0.51	0/943	0.67	0/1269
34	RP	0.47	0/1162	0.78	0/1544
34	YP	0.47	0/1139	0.73	0/1514
35	RQ	0.45	0/1143	0.70	0/1527
35	YQ	0.51	0/1143	0.71	0/1527
36	RR	0.45	0/974	0.67	0/1302
36	YR	0.46	0/974	0.67	0/1302
37	RS	0.43	0/892	0.76	0/1187
37	YS	0.44	0/892	0.72	0/1187
38	RT	0.46	0/1155	0.75	2/1542 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	YT	0.48	0/1155	0.74	2/1542 (0.1%)
39	RU	0.46	0/982	0.65	0/1306
39	YU	0.55	0/982	0.64	0/1306
40	RV	0.48	0/790	0.72	0/1057
40	YV	0.49	0/790	0.70	0/1057
41	RW	0.50	0/911	0.67	0/1220
41	YW	0.50	0/911	0.64	0/1220
42	RX	0.43	0/739	0.64	1/993 (0.1%)
42	YX	0.50	0/739	0.67	1/993 (0.1%)
43	RY	0.44	0/831	0.60	0/1108
43	YY	0.46	0/831	0.58	0/1108
44	RZ	0.49	0/1493	0.79	0/2026
44	YZ	0.44	0/1493	0.74	2/2026 (0.1%)
45	R0	0.41	0/652	0.61	0/867
45	Y0	0.44	0/601	0.60	0/801
46	R1	0.46	0/770	0.66	0/1022
46	Y1	0.50	0/736	0.69	0/978
47	R2	0.49	0/583	0.68	0/771
47	Y2	0.46	0/583	0.68	0/771
48	R3	0.43	0/474	0.65	0/635
48	Y3	0.49	0/474	0.66	0/635
49	R4	0.44	0/578	0.73	0/776
49	Y4	0.48	0/578	0.76	0/776
50	R5	0.46	0/473	0.62	0/639
50	Y5	0.50	0/473	0.78	1/639 (0.2%)
51	R6	0.40	0/460	0.60	0/613
51	Y6	0.45	0/460	0.62	0/613
52	R7	0.44	0/417	0.65	0/550
52	Y7	0.49	0/426	0.64	0/561
53	R8	0.52	0/525	0.75	0/691
53	Y8	0.59	0/525	0.76	0/691
54	R9	0.37	0/310	0.62	0/407
54	Y9	0.42	0/310	0.59	0/407
All	All	0.68	9/316004 (0.0%)	1.03	1056/472499 (0.2%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
4	QD	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
12	XL	0	1
27	YE	0	1
29	RG	0	1
29	YG	0	1
44	RZ	0	1
44	YZ	0	1
All	All	0	7

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	XD	61	LYS	CE-NZ	11.17	1.76	1.49
22	QV	1	C	OP3-P	-10.43	1.48	1.61
22	XV	1	C	OP3-P	-10.41	1.48	1.61
4	QD	13	ARG	CZ-NH1	7.36	1.42	1.33
5	QE	57	LYS	CD-CE	5.31	1.64	1.51
24	RA	248	G	N7-C5	-5.28	1.36	1.39
24	YA	2712(A)	A	N9-C8	-5.24	1.33	1.37
24	YA	2712(A)	A	N7-C5	-5.14	1.36	1.39
24	YA	2868	A	N7-C5	-5.10	1.36	1.39

All (1056) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	1774	C	C2-N1-C1'	19.55	140.31	118.80
24	RA	1774	C	C6-N1-C1'	-15.44	102.27	120.80
1	XA	359	U	C2-N1-C1'	13.62	134.05	117.70
24	YA	1158	C	C2-N1-C1'	13.17	133.29	118.80
1	QA	1301	U	N1-C2-O2	12.01	131.21	122.80
24	YA	1313	U	N3-C2-O2	-11.93	113.85	122.20
24	YA	511	U	C2-N1-C1'	11.92	132.01	117.70
24	YA	856	C	C6-N1-C2	-11.75	115.60	120.30
50	Y5	60	VAL	CA-C-O	-11.67	95.59	120.10
25	RB	31	C	N1-C2-O2	11.35	125.71	118.90
24	RA	1774	C	N3-C2-O2	-11.34	113.96	121.90
24	YA	1158	C	C6-N1-C1'	-10.95	107.66	120.80
24	RA	856	C	C6-N1-C2	-10.93	115.93	120.30
24	YA	1535	U	N1-C2-O2	10.68	130.27	122.80
1	XA	359	U	C6-N1-C1'	-10.61	106.35	121.20
1	QA	1301	U	N3-C2-O2	-10.60	114.78	122.20
1	QA	328	C	N1-C2-O2	10.52	125.21	118.90
1	QA	1158	C	N1-C2-O2	10.47	125.18	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	2712(A)	A	N7-C8-N9	10.45	119.03	113.80
24	RA	546	C	N1-C2-O2	10.38	125.13	118.90
1	XA	1158	C	N1-C2-O2	10.35	125.11	118.90
24	YA	2868	A	N7-C8-N9	10.35	118.97	113.80
1	XA	328	C	N1-C2-O2	10.32	125.09	118.90
24	RA	1774	C	N1-C2-O2	10.29	125.07	118.90
24	YA	2868	A	C8-N9-C4	-10.17	101.73	105.80
24	YA	1313	U	N1-C2-O2	10.11	129.88	122.80
25	YB	31	C	N1-C2-O2	9.96	124.88	118.90
24	RA	1968	G	C4-N9-C1'	9.87	139.33	126.50
24	YA	1407	C	C6-N1-C2	-9.80	116.38	120.30
1	QA	1158	C	N3-C2-O2	-9.67	115.13	121.90
24	RA	308	G	C8-N9-C1'	9.65	139.55	127.00
24	YA	1535	U	N3-C2-O2	-9.65	115.44	122.20
24	YA	1313	U	C2-N1-C1'	9.65	129.28	117.70
24	RA	1968	G	C8-N9-C1'	-9.57	114.56	127.00
24	YA	120	U	N3-C2-O2	-9.53	115.53	122.20
24	RA	308	G	C4-N9-C1'	-9.50	114.14	126.50
24	YA	511	U	C6-N1-C1'	-9.48	107.93	121.20
24	YA	1956	U	N3-C2-O2	-9.46	115.58	122.20
24	YA	1774	C	N3-C2-O2	-9.34	115.36	121.90
24	YA	860	U	N3-C2-O2	-9.29	115.70	122.20
24	YA	1670	C	C2-N1-C1'	9.20	128.92	118.80
24	RA	1313	U	N3-C2-O2	-9.18	115.78	122.20
1	QA	1158	C	C6-N1-C2	-9.17	116.63	120.30
24	RA	2666	C	N1-C2-O2	9.15	124.39	118.90
24	RA	1640	C	N1-C2-O2	9.08	124.35	118.90
24	RA	120	U	N3-C2-O2	-9.07	115.85	122.20
24	RA	373	U	N3-C2-O2	-8.97	115.92	122.20
24	YA	828	U	C2-N1-C1'	8.93	128.41	117.70
24	YA	1914	C	N1-C2-O2	8.84	124.20	118.90
1	XA	330	C	N1-C2-O2	8.76	124.16	118.90
24	YA	856	C	C5-C6-N1	8.75	125.37	121.00
24	YA	1774	C	N1-C2-O2	8.70	124.12	118.90
24	YA	1968	G	O4'-C1'-N9	8.66	115.12	108.20
24	YA	1968	G	C4-N9-C1'	8.64	137.74	126.50
24	RA	373	U	N1-C2-O2	8.64	128.85	122.80
24	RA	1956	U	N3-C2-O2	-8.57	116.20	122.20
1	XA	979	C	N1-C2-O2	8.51	124.01	118.90
25	YB	31	C	C2-N1-C1'	8.51	128.16	118.80
24	RA	120	U	N1-C2-O2	8.49	128.74	122.80
1	QA	328	C	N3-C2-O2	-8.48	115.96	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	1914	C	N1-C2-O2	8.47	123.98	118.90
1	XA	1158	C	N3-C2-O2	-8.44	115.99	121.90
24	RA	828	U	N1-C2-O2	8.44	128.71	122.80
24	RA	546	C	N3-C2-O2	-8.43	116.00	121.90
25	YB	37	C	N1-C2-O2	8.41	123.95	118.90
1	XA	358	U	N1-C1'-C2'	-8.38	102.79	112.00
24	RA	1931	U	N1-C2-O2	8.36	128.65	122.80
24	RA	828	U	N3-C2-O2	-8.35	116.35	122.20
1	XA	328	C	N3-C2-O2	-8.35	116.06	121.90
24	YA	2814	C	N3-C2-O2	-8.35	116.06	121.90
24	YA	1159	U	C2-N1-C1'	8.34	127.71	117.70
1	QA	1322	C	N1-C2-O2	8.33	123.90	118.90
24	YA	1407	C	C5-C6-N1	8.32	125.16	121.00
24	YA	120	U	N1-C2-O2	8.31	128.61	122.80
24	YA	1968	G	C8-N9-C1'	-8.26	116.26	127.00
25	RB	31	C	N3-C2-O2	-8.26	116.12	121.90
24	YA	1314	C	C6-N1-C2	-8.26	117.00	120.30
24	YA	828	U	N1-C2-O2	8.23	128.56	122.80
24	RA	1407	C	C6-N1-C2	-8.22	117.01	120.30
24	RA	1931	U	N3-C2-O2	-8.21	116.45	122.20
24	YA	2726	U	N3-C2-O2	-8.21	116.45	122.20
24	YA	435	C	N1-C2-O2	8.20	123.82	118.90
24	YA	1407	C	C2-N1-C1'	8.20	127.82	118.80
1	QA	1504	G	C8-N9-C1'	-8.17	116.38	127.00
1	XA	1158	C	C2-N1-C1'	8.16	127.78	118.80
24	RA	1313	U	N1-C2-O2	8.16	128.51	122.80
1	QA	1066	C	N1-C2-O2	8.15	123.79	118.90
1	QA	328	C	C6-N1-C2	-8.12	117.05	120.30
1	QA	328	C	C2-N1-C1'	8.10	127.71	118.80
1	QA	1158	C	C2-N1-C1'	8.10	127.71	118.80
1	QA	1504	G	C4-N9-C1'	8.07	136.99	126.50
25	RB	31	C	C2-N1-C1'	8.00	127.60	118.80
24	RA	1519	G	C8-N9-C1'	-7.99	116.61	127.00
1	XA	1158	C	C6-N1-C2	-7.97	117.11	120.30
24	RA	856	C	C5-C6-N1	7.96	124.98	121.00
1	QA	754	C	C2-N1-C1'	7.93	127.53	118.80
24	RA	1417	C	C5-C6-N1	7.92	124.96	121.00
24	YA	41	C	C6-N1-C2	-7.90	117.14	120.30
24	RA	1314	C	C6-N1-C2	-7.87	117.15	120.30
24	YA	749	C	N1-C2-O2	7.86	123.61	118.90
24	RA	1519	G	C4-N9-C1'	7.84	136.70	126.50
24	RA	537	C	C5-C6-N1	7.82	124.91	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	1406	U	C5-C6-N1	7.80	126.60	122.70
1	QA	110	C	N1-C2-O2	7.79	123.57	118.90
24	RA	893	C	N1-C2-O2	7.78	123.57	118.90
1	QA	1322	C	N3-C2-O2	-7.78	116.45	121.90
24	RA	828	U	C2-N1-C1'	7.76	127.02	117.70
24	RA	613	U	N1-C2-O2	7.75	128.23	122.80
24	YA	1956	U	N1-C2-O2	7.75	128.23	122.80
24	YA	860	U	N1-C2-O2	7.74	128.22	122.80
23	QX	21	G	C2'-C3'-O3'	7.72	126.49	109.50
1	XA	747	C	N1-C2-O2	7.69	123.51	118.90
1	XA	186(F)	C	N3-C2-O2	-7.68	116.52	121.90
42	YX	66	LEU	CA-CB-CG	7.66	132.92	115.30
1	QA	1028(A)	C	N1-C2-O2	7.65	123.49	118.90
24	YA	1915	U	N1-C2-O2	7.64	128.15	122.80
1	QA	307	C	N1-C2-O2	7.60	123.46	118.90
24	YA	1658	C	C5-C6-N1	7.60	124.80	121.00
24	RA	1535	U	N1-C2-O2	7.59	128.12	122.80
24	RA	2666	C	N3-C2-O2	-7.59	116.59	121.90
24	YA	828	U	N3-C2-O2	-7.59	116.89	122.20
24	RA	1640	C	C6-N1-C2	-7.58	117.27	120.30
1	QA	1322	C	C6-N1-C2	-7.58	117.27	120.30
24	YA	1506	C	C6-N1-C2	-7.58	117.27	120.30
24	YA	2814	C	N1-C2-O2	7.57	123.44	118.90
1	XA	110	C	N1-C2-O2	7.57	123.44	118.90
1	XA	960	U	N1-C2-O2	7.57	128.09	122.80
24	RA	537	C	C6-N1-C2	-7.54	117.28	120.30
25	YB	37	C	N3-C2-O2	-7.54	116.62	121.90
24	RA	1474	C	C6-N1-C2	-7.52	117.29	120.30
24	YA	2712(A)	A	C8-N9-C4	-7.52	102.79	105.80
24	RA	607	U	N1-C2-O2	7.49	128.04	122.80
24	RA	2063	C	N1-C2-O2	7.49	123.39	118.90
1	XA	747	C	N3-C2-O2	-7.49	116.66	121.90
1	XA	135	C	N3-C2-O2	-7.48	116.66	121.90
24	RA	435	C	N1-C2-O2	7.48	123.39	118.90
1	XA	1260	C	N3-C2-O2	-7.47	116.67	121.90
1	QA	1301	U	C2-N1-C1'	7.46	126.66	117.70
1	XA	135	C	N1-C2-O2	7.46	123.38	118.90
24	RA	867	C	N1-C2-O2	7.44	123.36	118.90
1	XA	979	C	N3-C2-O2	-7.44	116.69	121.90
24	RA	1407	C	C2-N1-C1'	7.43	126.98	118.80
24	YA	1658	C	C6-N1-C2	-7.43	117.33	120.30
24	RA	1005	C	N1-C2-O2	7.43	123.36	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	2726	U	N1-C2-O2	7.41	127.98	122.80
24	RA	546	C	C6-N1-C2	-7.40	117.34	120.30
1	XA	1260	C	N1-C2-O2	7.37	123.32	118.90
24	RA	846	C	N3-C2-O2	-7.37	116.74	121.90
24	RA	1968	G	O4'-C1'-N9	7.36	114.09	108.20
24	YA	867	C	N1-C2-O2	7.35	123.31	118.90
1	XA	307	C	N1-C2-O2	7.34	123.31	118.90
24	YA	1686	C	C6-N1-C2	-7.34	117.36	120.30
24	YA	556	G	C6-C5-N7	-7.33	126.00	130.40
24	RA	679	C	C6-N1-C2	-7.32	117.37	120.30
24	RA	613	U	N3-C2-O2	-7.32	117.08	122.20
24	RA	1640	C	N3-C2-O2	-7.32	116.78	121.90
24	YA	2063	C	N1-C2-O2	7.31	123.28	118.90
24	YA	2726	U	N1-C2-O2	7.29	127.90	122.80
24	YA	537	C	C5-C6-N1	7.29	124.64	121.00
1	QA	1260	C	C6-N1-C2	-7.29	117.39	120.30
24	YA	2739	U	N3-C2-O2	-7.28	117.11	122.20
24	RA	2394	C	N1-C2-O2	7.28	123.27	118.90
24	YA	385	C	C6-N1-C2	-7.28	117.39	120.30
14	QN	44	LEU	CA-CB-CG	7.25	131.98	115.30
1	XA	449	C	N1-C2-O2	7.25	123.25	118.90
24	RA	846	C	N1-C2-O2	7.24	123.24	118.90
24	YA	1670	C	C6-N1-C1'	-7.22	112.13	120.80
24	RA	2726	U	N3-C2-O2	-7.22	117.14	122.20
24	YA	1417	C	C5-C6-N1	7.22	124.61	121.00
24	RA	456	C	N1-C2-O2	7.20	123.22	118.90
24	RA	1774	C	C6-N1-C2	-7.20	117.42	120.30
24	RA	1899	G	N3-C4-N9	-7.20	121.68	126.00
24	YA	1411	C	C6-N1-C2	-7.19	117.42	120.30
25	YB	31	C	N3-C2-O2	-7.19	116.86	121.90
24	YA	2701	C	C6-N1-C2	-7.19	117.42	120.30
22	QV	1	C	C6-N1-C2	-7.19	117.42	120.30
24	RA	1097	U	N3-C2-O2	-7.18	117.17	122.20
24	RA	607	U	N3-C2-O2	-7.18	117.17	122.20
22	QV	68	U	N1-C2-O2	7.17	127.82	122.80
24	RA	546	C	C2-N1-C1'	7.16	126.67	118.80
24	RA	1956	U	N1-C2-O2	7.15	127.81	122.80
1	XA	1452	C	N1-C2-O2	7.14	123.18	118.90
1	QA	252	U	N1-C2-O2	7.13	127.79	122.80
24	YA	2065	C	C5-C6-N1	7.12	124.56	121.00
1	QA	328	C	C5-C6-N1	7.12	124.56	121.00
1	QA	1228	C	C6-N1-C2	-7.10	117.46	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	2321	G	N3-C4-C5	-7.08	125.06	128.60
1	QA	252	U	N3-C2-O2	-7.08	117.24	122.20
24	YA	753	C	C6-N1-C2	-7.07	117.47	120.30
1	QA	346	G	N3-C4-C5	-7.07	125.07	128.60
1	XA	618	C	C6-N1-C2	-7.06	117.47	120.30
24	YA	2065	C	C6-N1-C2	-7.06	117.47	120.30
24	RA	1097	U	N1-C2-O2	7.06	127.74	122.80
24	RA	1474	C	C5-C6-N1	7.05	124.53	121.00
24	RA	2847	U	N1-C2-O2	7.05	127.73	122.80
38	RT	99	LEU	CA-CB-CG	7.05	131.51	115.30
1	XA	328	C	C6-N1-C2	-7.04	117.48	120.30
24	RA	1882	C	C6-N1-C2	-7.03	117.49	120.30
1	XA	1301	U	N3-C2-O2	-7.03	117.28	122.20
24	YA	435	C	N3-C2-O2	-7.02	116.98	121.90
24	RA	1313	U	C2-N1-C1'	7.01	126.11	117.70
24	YA	2321	G	N3-C4-C5	-7.01	125.09	128.60
24	YA	1950	G	C4-N9-C1'	7.00	135.61	126.50
25	RB	27	C	N1-C2-O2	7.00	123.10	118.90
1	QA	789	U	N3-C2-O2	-7.00	117.30	122.20
1	XA	827	U	N3-C2-O2	-7.00	117.30	122.20
1	XA	1347	G	C4-N9-C1'	-6.99	117.41	126.50
38	YT	99	LEU	CA-CB-CG	6.98	131.36	115.30
24	RA	2752	C	N1-C2-O2	6.98	123.09	118.90
24	RA	2063	C	N3-C2-O2	-6.98	117.02	121.90
24	RA	2559	C	N1-C2-O2	6.97	123.08	118.90
24	YA	2591	C	C6-N1-C2	-6.96	117.51	120.30
1	XA	346	G	N3-C4-N9	6.96	130.18	126.00
24	YA	2394	C	N1-C2-O2	6.96	123.08	118.90
24	RA	1742	C	C6-N1-C2	-6.96	117.52	120.30
25	YB	27	C	N1-C2-O2	6.95	123.07	118.90
24	YA	915	C	C6-N1-C2	-6.94	117.52	120.30
24	YA	1064	C	C6-N1-C2	-6.93	117.53	120.30
24	YA	1534	G	N3-C4-N9	6.92	130.15	126.00
24	RA	2321	G	C8-N9-C4	-6.91	103.64	106.40
24	RA	1514	U	N1-C2-O2	6.90	127.63	122.80
24	RA	1294	U	N3-C2-O2	-6.90	117.37	122.20
24	RA	867	C	N3-C2-O2	-6.89	117.08	121.90
24	RA	1417	C	C6-N1-C2	-6.89	117.55	120.30
1	XA	497	U	N3-C2-O2	-6.88	117.38	122.20
1	XA	449	C	N3-C2-O2	-6.88	117.08	121.90
1	XA	1301	U	N1-C2-O2	6.88	127.62	122.80
24	YA	2712(A)	A	C5-N7-C8	-6.88	100.46	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	67	U	C5-C6-N1	6.88	126.14	122.70
24	YA	265	A	O4'-C1'-N9	6.86	113.69	108.20
1	QA	754	C	N1-C2-O2	6.85	123.01	118.90
24	RA	1882	C	C2-N1-C1'	6.85	126.34	118.80
24	RA	1882	C	C5-C6-N1	6.83	124.41	121.00
24	RA	1514	U	N3-C2-O2	-6.82	117.42	122.20
24	YA	537	C	C6-N1-C2	-6.82	117.57	120.30
24	YA	1506	C	N1-C2-O2	6.79	122.98	118.90
22	XV	1	C	C6-N1-C2	-6.79	117.59	120.30
1	XA	529	G	C5-C6-O6	-6.78	124.53	128.60
22	QV	68	U	N3-C2-O2	-6.78	117.45	122.20
24	RA	2063	C	C6-N1-C2	-6.78	117.59	120.30
24	YA	867	C	N3-C2-O2	-6.78	117.15	121.90
1	XA	1260	C	C6-N1-C2	-6.77	117.59	120.30
24	YA	9	U	N1-C2-O2	6.77	127.54	122.80
24	RA	635	C	C6-N1-C2	-6.75	117.60	120.30
24	RA	1914	C	N3-C2-O2	-6.75	117.18	121.90
1	QA	749	C	N3-C2-O2	-6.74	117.18	121.90
1	XA	1347	G	C8-N9-C1'	6.74	135.76	127.00
1	XA	135	C	C6-N1-C2	-6.73	117.61	120.30
24	RA	1509	C	C2-N1-C1'	6.72	126.19	118.80
24	RA	1535	U	N3-C2-O2	-6.71	117.50	122.20
1	XA	1028	C	C6-N1-C2	-6.71	117.62	120.30
24	RA	234	C	N1-C2-O2	6.69	122.91	118.90
24	YA	2808	U	N3-C2-O2	-6.69	117.52	122.20
24	RA	1135	C	N1-C2-O2	6.68	122.91	118.90
24	YA	2739	U	N1-C2-O2	6.67	127.47	122.80
24	RA	537	C	N1-C2-O2	6.66	122.90	118.90
9	QI	111	ARG	CG-CD-NE	-6.66	97.82	111.80
24	RA	2096	U	N1-C2-O2	6.64	127.45	122.80
25	RB	30	C	C6-N1-C2	-6.64	117.64	120.30
1	XA	1109	C	N1-C2-O2	6.63	122.88	118.90
1	XA	330	C	N3-C2-O2	-6.63	117.26	121.90
24	YA	445	C	C6-N1-C2	-6.63	117.65	120.30
1	XA	754	C	C2-N1-C1'	6.62	126.09	118.80
1	XA	960	U	N3-C2-O2	-6.62	117.56	122.20
24	YA	1005	C	N1-C2-O2	6.62	122.87	118.90
24	YA	2559	C	C6-N1-C2	-6.62	117.65	120.30
1	XA	346	G	N3-C4-C5	-6.62	125.29	128.60
24	YA	1407	C	N1-C2-O2	6.62	122.87	118.90
22	XV	76	C	C6-N1-C2	-6.61	117.65	120.30
24	YA	9	U	N3-C2-O2	-6.61	117.57	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	1506	C	C5-C6-N1	6.61	124.31	121.00
24	RA	1835	G	N3-C4-N9	6.61	129.97	126.00
1	QA	1066	C	C2-N1-C1'	6.60	126.06	118.80
1	XA	1109	C	N3-C2-O2	-6.60	117.28	121.90
24	RA	1686	C	C6-N1-C2	-6.59	117.66	120.30
24	YA	41	C	C5-C6-N1	6.59	124.30	121.00
1	QA	1066	C	C5-C6-N1	6.58	124.29	121.00
24	YA	2063	C	N3-C2-O2	-6.58	117.30	121.90
24	YA	1915	U	N3-C2-O2	-6.58	117.60	122.20
25	YB	31	C	C6-N1-C2	-6.58	117.67	120.30
1	XA	328	C	C2-N1-C1'	6.57	126.03	118.80
24	YA	1914	C	N3-C2-O2	-6.57	117.30	121.90
24	YA	1314	C	C5-C6-N1	6.57	124.28	121.00
1	QA	169	C	N1-C2-O2	6.56	122.84	118.90
24	YA	930	U	N1-C2-O2	6.56	127.39	122.80
24	YA	2468	G	C4-N9-C1'	6.56	135.03	126.50
24	YA	12	U	N1-C2-O2	6.56	127.39	122.80
24	RA	1835	G	N3-C4-C5	-6.56	125.32	128.60
24	RA	2096	U	N3-C2-O2	-6.55	117.61	122.20
24	YA	2343	C	N3-C2-O2	-6.55	117.31	121.90
24	RA	373	U	C2-N1-C1'	6.55	125.56	117.70
24	YA	1580	A	C4-N9-C1'	6.54	138.08	126.30
24	YA	243	U	C5-C6-N1	6.54	125.97	122.70
24	RA	373	U	C5-C6-N1	6.53	125.97	122.70
24	YA	1411	C	C5-C6-N1	6.53	124.26	121.00
24	RA	2808	U	N1-C2-O2	6.52	127.37	122.80
24	YA	1534	G	N3-C4-C5	-6.52	125.34	128.60
24	RA	1406	U	N1-C2-O2	6.52	127.36	122.80
24	YA	828	U	C5-C6-N1	6.51	125.96	122.70
25	RB	31	C	C6-N1-C2	-6.51	117.70	120.30
24	YA	2868	A	C5-N7-C8	-6.50	100.65	103.90
24	RA	2210	G	N3-C4-N9	6.50	129.90	126.00
24	RA	2868	A	C8-N9-C4	-6.49	103.20	105.80
24	RA	2847	U	N3-C2-O2	-6.49	117.66	122.20
24	YA	141	A	N7-C8-N9	6.49	117.04	113.80
24	RA	749	C	N1-C2-O2	6.48	122.79	118.90
24	YA	1332	G	C6-C5-N7	-6.48	126.51	130.40
24	YA	373	U	N3-C2-O2	-6.47	117.67	122.20
24	RA	1920	C	C5-C6-N1	6.47	124.23	121.00
24	RA	2666	C	C6-N1-C2	-6.47	117.71	120.30
1	XA	358	U	P-O3'-C3'	6.46	127.45	119.70
24	YA	1644	C	N3-C2-O2	-6.45	117.38	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	2648	C	C5-C6-N1	6.45	124.22	121.00
1	XA	449	C	C6-N1-C2	-6.45	117.72	120.30
24	RA	2720	U	N3-C2-O2	-6.44	117.69	122.20
24	YA	120	U	C2-N1-C1'	6.44	125.43	117.70
24	RA	2210	G	N3-C4-C5	-6.43	125.38	128.60
24	YA	1462	C	N1-C2-O2	6.43	122.76	118.90
1	QA	1158	C	C5-C6-N1	6.43	124.22	121.00
24	YA	1411	C	N1-C2-O2	6.43	122.76	118.90
24	RA	546	C	C5-C6-N1	6.42	124.21	121.00
24	YA	1332	G	C4-N9-C1'	6.42	134.85	126.50
1	QA	1344	C	C6-N1-C2	-6.42	117.73	120.30
24	RA	2188	C	C6-N1-C2	-6.41	117.73	120.30
1	XA	1158	C	C5-C6-N1	6.41	124.21	121.00
1	QA	1109	C	N1-C2-O2	6.41	122.75	118.90
24	YA	269	U	N3-C2-O2	-6.41	117.71	122.20
24	RA	2394	C	N3-C2-O2	-6.40	117.42	121.90
1	QA	1028(A)	C	N3-C2-O2	-6.40	117.42	121.90
24	RA	1506	C	N1-C2-O2	6.39	122.73	118.90
25	RB	37	C	N1-C2-O2	6.39	122.73	118.90
24	YA	2321	G	C8-N9-C4	-6.38	103.85	106.40
24	YA	859	G	P-O3'-C3'	6.38	127.36	119.70
24	RA	2161	C	N1-C2-O2	6.38	122.73	118.90
1	XA	497	U	N1-C2-O2	6.38	127.27	122.80
24	RA	1005	C	N3-C2-O2	-6.38	117.44	121.90
24	RA	1314	C	C5-C6-N1	6.38	124.19	121.00
24	RA	1658	C	C6-N1-C2	-6.37	117.75	120.30
1	QA	1066	C	C6-N1-C2	-6.36	117.75	120.30
24	YA	510	C	C2-N1-C1'	6.36	125.80	118.80
24	YA	1580	A	C8-N9-C1'	-6.36	116.26	127.70
24	YA	2874	C	N1-C2-O2	6.35	122.71	118.90
24	YA	2480	C	N3-C2-O2	-6.35	117.45	121.90
24	YA	537	C	N1-C2-O2	6.33	122.70	118.90
24	YA	1686	C	N1-C2-O2	6.33	122.70	118.90
24	YA	1678	G	N7-C8-N9	6.33	116.26	113.10
24	YA	2096	U	N3-C2-O2	-6.33	117.77	122.20
24	RA	1406	U	N3-C2-O2	-6.32	117.78	122.20
24	YA	1314	C	N1-C2-O2	6.32	122.69	118.90
24	RA	915	C	C6-N1-C2	-6.32	117.77	120.30
1	XA	307	C	N3-C2-O2	-6.32	117.48	121.90
24	YA	2808	U	N1-C2-O2	6.31	127.21	122.80
24	YA	556	G	N3-C4-N9	6.30	129.78	126.00
24	YA	1159	U	C6-N1-C1'	-6.30	112.37	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RB	37	C	N3-C2-O2	-6.30	117.49	121.90
24	YA	1411	C	C2-N1-C1'	6.29	125.72	118.80
24	RA	729	G	C4-N9-C1'	6.29	134.68	126.50
22	QV	76	C	C6-N1-C2	-6.29	117.78	120.30
24	YA	753	C	C5-C6-N1	6.29	124.14	121.00
24	RA	456	C	N3-C2-O2	-6.28	117.50	121.90
14	XN	44	LEU	CA-CB-CG	6.28	129.74	115.30
24	YA	797	C	C6-N1-C2	-6.28	117.79	120.30
24	YA	783	A	C5-N7-C8	-6.26	100.77	103.90
24	YA	1234	U	N3-C2-O2	-6.26	117.82	122.20
24	RA	2808	U	N3-C2-O2	-6.26	117.82	122.20
24	YA	846	C	C2'-C3'-O3'	6.25	123.71	113.70
24	YA	556	G	N7-C8-N9	6.25	116.22	113.10
24	RA	2591	C	C6-N1-C2	-6.25	117.80	120.30
24	RA	1332	G	C6-C5-N7	-6.24	126.66	130.40
24	RA	1640	C	C5-C6-N1	6.24	124.12	121.00
24	RA	2739	U	N3-C2-O2	-6.24	117.84	122.20
24	YA	1640	C	C6-N1-C2	-6.23	117.81	120.30
24	YA	1005	C	C2-N1-C1'	6.23	125.65	118.80
1	QA	749	C	N1-C2-O2	6.23	122.64	118.90
1	XA	749	C	C6-N1-C2	-6.23	117.81	120.30
24	RA	1372	U	N1-C2-O2	6.23	127.16	122.80
24	YA	234	C	N1-C2-O2	6.22	122.63	118.90
24	YA	893	C	N1-C2-O2	6.22	122.63	118.90
1	XA	110	C	N3-C2-O2	-6.22	117.55	121.90
25	YB	30	C	C6-N1-C2	-6.22	117.81	120.30
24	RA	817	C	C6-N1-C2	-6.21	117.81	120.30
24	RA	1644	C	C6-N1-C2	-6.21	117.81	120.30
1	XA	1452	C	N3-C2-O2	-6.21	117.55	121.90
24	RA	2752	C	N3-C2-O2	-6.21	117.55	121.90
1	QA	1301	U	C5-C6-N1	6.21	125.81	122.70
24	RA	1064	C	C6-N1-C2	-6.20	117.82	120.30
24	YA	2688	U	N3-C2-O2	-6.20	117.86	122.20
24	YA	269	U	N1-C2-O2	6.19	127.13	122.80
1	XA	1228	C	C6-N1-C2	-6.19	117.83	120.30
24	RA	1528	A	N7-C8-N9	6.18	116.89	113.80
24	YA	783	A	N7-C8-N9	6.18	116.89	113.80
24	YA	2501	C	C2-N1-C1'	-6.18	112.00	118.80
1	QA	110	C	N3-C2-O2	-6.17	117.58	121.90
24	YA	2210	G	N3-C4-C5	-6.16	125.52	128.60
24	RA	1914	C	C2-N1-C1'	6.16	125.57	118.80
24	YA	2578	G	N1-C6-O6	-6.15	116.21	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	923	C	C5-C6-N1	6.15	124.07	121.00
24	YA	758	C	N3-C2-O2	-6.14	117.60	121.90
24	RA	904	C	N1-C2-O2	6.14	122.58	118.90
1	XA	1140	C	C6-N1-C2	-6.14	117.84	120.30
1	XA	1161	C	N1-C2-O2	6.14	122.59	118.90
24	YA	1013	C	C6-N1-C2	-6.14	117.85	120.30
24	RA	1407	C	C5-C6-N1	6.13	124.07	121.00
24	RA	2559	C	N3-C2-O2	-6.13	117.61	121.90
25	RB	43	C	N1-C2-O2	6.13	122.58	118.90
1	XA	1028(B)	C	C6-N1-C2	-6.12	117.85	120.30
1	QA	346	G	C2-N3-C4	6.12	114.96	111.90
24	RA	1513	C	N1-C2-O2	6.11	122.57	118.90
24	YA	2210	G	N3-C4-N9	6.11	129.67	126.00
38	YT	99	LEU	CB-CG-CD1	-6.11	100.61	111.00
24	RA	893	C	N3-C2-O2	-6.11	117.63	121.90
1	QA	307	C	N3-C2-O2	-6.10	117.63	121.90
24	YA	1644	C	N1-C2-O2	6.10	122.56	118.90
1	XA	252	U	C5-C6-N1	6.10	125.75	122.70
24	RA	1902	C	N1-C2-O2	6.09	122.56	118.90
24	RA	1505	C	N1-C2-O2	6.09	122.56	118.90
24	YA	2307	G	C4-N9-C1'	6.09	134.42	126.50
24	RA	2688	U	N3-C2-O2	-6.09	117.94	122.20
24	RA	640	C	C5-C6-N1	6.09	124.04	121.00
24	YA	1882	C	C6-N1-C2	-6.08	117.87	120.30
24	YA	2041	U	C5-C6-N1	6.08	125.74	122.70
1	QA	1118	C	N1-C2-O2	6.07	122.54	118.90
24	YA	857	C	C6-N1-C2	-6.07	117.87	120.30
1	QA	1279	A	N7-C8-N9	6.07	116.83	113.80
24	RA	976	C	C6-N1-C2	-6.07	117.87	120.30
24	YA	783	A	C8-N9-C4	-6.07	103.37	105.80
24	RA	1833	U	N3-C2-O2	-6.07	117.95	122.20
24	RA	1406	U	C5-C6-N1	6.06	125.73	122.70
24	YA	2584	U	N3-C2-O2	-6.06	117.96	122.20
24	YA	1640	C	N1-C2-O2	6.06	122.54	118.90
24	YA	1430	C	C6-N1-C2	-6.05	117.88	120.30
24	RA	120	U	C2-N1-C1'	6.05	124.96	117.70
24	RA	1658	C	C5-C6-N1	6.04	124.02	121.00
24	RA	2043	C	C5-C6-N1	6.04	124.02	121.00
1	XA	328	C	C5-C6-N1	6.04	124.02	121.00
24	RA	856	C	N1-C2-O2	6.04	122.52	118.90
1	QA	1147	C	N3-C2-O2	-6.04	117.67	121.90
24	YA	141	A	C5-N7-C8	-6.04	100.88	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	1430	C	C5-C6-N1	6.03	124.02	121.00
24	YA	12	U	N3-C2-O2	-6.03	117.98	122.20
24	RA	2868	A	N7-C8-N9	6.01	116.81	113.80
1	QA	1066	C	N3-C2-O2	-6.01	117.69	121.90
24	YA	1961	C	N3-C2-O2	-6.01	117.69	121.90
24	RA	1407	C	N1-C2-O2	6.01	122.50	118.90
25	RB	27	C	N3-C2-O2	-6.01	117.69	121.90
24	YA	672	C	C6-N1-C2	-6.01	117.90	120.30
24	YA	2210	G	C4-N9-C1'	6.01	134.31	126.50
24	YA	2712	U	N3-C2-O2	-6.01	118.00	122.20
24	YA	1604	C	C6-N1-C2	-6.00	117.90	120.30
1	QA	1395	C	N1-C2-O2	6.00	122.50	118.90
24	YA	856	C	N3-C2-O2	-6.00	117.70	121.90
22	XV	68	U	N1-C2-O2	6.00	127.00	122.80
24	YA	640	C	C6-N1-C2	-6.00	117.90	120.30
24	YA	1675	C	C6-N1-C2	-5.99	117.90	120.30
24	YA	2096	U	N1-C2-O2	5.99	126.99	122.80
22	XV	68	U	N3-C2-O2	-5.99	118.01	122.20
24	RA	1332	G	C4-N9-C1'	5.98	134.28	126.50
24	YA	930	U	N3-C2-O2	-5.97	118.02	122.20
1	QA	1260	C	N3-C2-O2	-5.97	117.72	121.90
24	RA	2420	C	C5-C6-N1	5.97	123.98	121.00
1	XA	826	C	C6-N1-C2	-5.97	117.91	120.30
24	YA	1644	C	C6-N1-C2	-5.97	117.91	120.30
24	YA	1437	C	C6-N1-C2	-5.97	117.91	120.30
1	XA	1028	C	N1-C2-O2	5.96	122.48	118.90
24	RA	1686	C	N1-C2-O2	5.96	122.48	118.90
25	YB	27	C	N3-C2-O2	-5.96	117.73	121.90
24	RA	1437	C	C6-N1-C2	-5.96	117.92	120.30
1	QA	455	C	N1-C2-O2	5.95	122.47	118.90
1	XA	330	C	C6-N1-C2	-5.95	117.92	120.30
24	YA	860	U	C6-N1-C1'	5.94	129.52	121.20
24	YA	1406	U	C6-N1-C2	-5.94	117.44	121.00
24	RA	1644	C	N1-C2-O2	5.94	122.46	118.90
24	YA	1306	C	C5-C6-N1	5.94	123.97	121.00
24	YA	1313	U	C6-N1-C1'	-5.94	112.89	121.20
24	RA	2043	C	C6-N1-C2	-5.93	117.93	120.30
24	RA	2683	C	N1-C2-O2	5.93	122.46	118.90
24	YA	1882	C	C2-N1-C1'	5.93	125.32	118.80
24	YA	749	C	N3-C2-O2	-5.93	117.75	121.90
22	QV	1	C	C5-C6-N1	5.92	123.96	121.00
1	QA	1109	C	N3-C2-O2	-5.92	117.75	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	654(T)	C	N1-C2-O2	5.92	122.45	118.90
24	YA	2559	C	N1-C2-O2	5.92	122.45	118.90
24	RA	537	C	C2-N1-C1'	5.92	125.31	118.80
1	QA	754	C	C6-N1-C1'	-5.91	113.70	120.80
24	RA	265	A	O4'-C1'-N9	5.91	112.93	108.20
24	YA	459	U	N3-C2-O2	-5.91	118.06	122.20
24	YA	2043	C	C6-N1-C2	-5.91	117.94	120.30
24	YA	2155	G	N3-C4-N9	5.90	129.54	126.00
24	RA	1528	A	C8-N9-C4	-5.90	103.44	105.80
24	RA	2473	U	N1-C2-O2	5.90	126.93	122.80
24	YA	856	C	N1-C2-O2	5.90	122.44	118.90
24	RA	2739	U	N1-C2-O2	5.90	126.93	122.80
24	RA	435	C	N3-C2-O2	-5.89	117.77	121.90
1	QA	1147	C	N1-C2-O2	5.89	122.44	118.90
24	RA	2720	U	N1-C2-O2	5.89	126.92	122.80
38	RT	105	LEU	CA-CB-CG	5.89	128.84	115.30
24	YA	234	C	N3-C2-O2	-5.88	117.78	121.90
24	RA	2874	C	N1-C2-O2	5.88	122.43	118.90
1	XA	1140	C	C2-N1-C1'	5.88	125.27	118.80
24	YA	640	C	C5-C6-N1	5.88	123.94	121.00
24	YA	1686	C	C5-C6-N1	5.87	123.94	121.00
24	RA	1065	U	N3-C2-O2	-5.87	118.09	122.20
24	RA	2473	U	N3-C2-O2	-5.87	118.09	122.20
1	QA	1381	U	N1-C2-O2	5.87	126.91	122.80
24	YA	797	C	C5-C6-N1	5.87	123.93	121.00
24	RA	456	C	C6-N1-C2	-5.85	117.96	120.30
1	XA	789	U	N3-C2-O2	-5.85	118.11	122.20
1	QA	90	C	N1-C2-O2	5.85	122.41	118.90
1	XA	827	U	C6-N1-C2	-5.85	117.49	121.00
24	RA	2825	C	C6-N1-C2	-5.84	117.96	120.30
24	YA	192	C	N3-C2-O2	-5.84	117.81	121.90
24	YA	1950	G	C8-N9-C1'	-5.84	119.41	127.00
24	RA	1417	C	N1-C2-O2	5.84	122.40	118.90
1	QA	449	C	N1-C2-O2	5.84	122.40	118.90
24	RA	2726	U	C2-N1-C1'	5.83	124.70	117.70
24	RA	730	C	P-O3'-C3'	5.83	126.69	119.70
1	XA	1395	C	N1-C2-O2	5.83	122.40	118.90
24	YA	1095	A	C2-N3-C4	5.83	113.51	110.60
24	YA	2702	U	C5-C6-N1	5.82	125.61	122.70
25	YB	37	C	C6-N1-C2	-5.82	117.97	120.30
24	RA	776	G	N3-C4-C5	-5.82	125.69	128.60
24	YA	1881	C	C6-N1-C2	-5.82	117.97	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	273(F)	C	C6-N1-C2	-5.82	117.97	120.30
24	YA	1599	C	C6-N1-C2	-5.82	117.97	120.30
1	XA	169	C	N1-C2-O2	5.81	122.39	118.90
24	YA	2825	C	C6-N1-C2	-5.81	117.97	120.30
25	RB	22	U	N3-C2-O2	-5.81	118.13	122.20
1	QA	1026	G	N3-C4-N9	5.81	129.49	126.00
24	RA	976	C	N1-C2-O2	5.80	122.38	118.90
24	RA	1314	C	N1-C2-O2	5.80	122.38	118.90
24	RA	2210	G	C4-N9-C1'	5.80	134.04	126.50
1	XA	979	C	C6-N1-C2	-5.79	117.98	120.30
24	RA	1686	C	C5-C6-N1	5.79	123.90	121.00
1	XA	455	C	N1-C2-O2	5.79	122.38	118.90
1	QA	449	C	C2-N1-C1'	5.79	125.17	118.80
24	RA	309	G	OP1-P-OP2	-5.79	110.92	119.60
1	XA	749	C	N3-C2-O2	-5.79	117.85	121.90
1	XA	1028	C	N3-C2-O2	-5.79	117.85	121.90
24	YA	1332	G	C8-N9-C1'	-5.78	119.48	127.00
24	YA	1343	G	N3-C4-C5	-5.78	125.71	128.60
24	YA	1407	C	N3-C2-O2	-5.78	117.85	121.90
24	YA	1535	U	C2-N1-C1'	5.78	124.64	117.70
24	YA	2320	A	C2-N3-C4	5.78	113.49	110.60
24	RA	120	U	C6-N1-C2	-5.78	117.53	121.00
1	XA	528	C	N1-C2-O2	5.78	122.37	118.90
25	RB	44	G	C4-N9-C1'	-5.77	119.00	126.50
24	RA	595	C	C5-C6-N1	5.77	123.89	121.00
24	RA	2825	C	N3-C2-O2	-5.77	117.86	121.90
1	QA	754	C	N3-C2-O2	-5.76	117.86	121.90
22	XV	35	C	N1-C2-O2	5.76	122.36	118.90
1	XA	738	C	C5-C6-N1	5.76	123.88	121.00
1	QA	435	C	C5-C6-N1	5.76	123.88	121.00
24	RA	1474	C	N1-C2-O2	5.76	122.35	118.90
24	YA	692	C	C6-N1-C2	-5.75	118.00	120.30
24	YA	1979	C	C6-N1-C2	-5.75	118.00	120.30
24	YA	1533	C	C5-C6-N1	5.75	123.88	121.00
24	RA	856	C	N3-C2-O2	-5.75	117.88	121.90
24	YA	2394	C	N3-C2-O2	-5.75	117.88	121.90
1	QA	697	U	N3-C2-O2	-5.74	118.18	122.20
24	RA	2501	C	C2-N1-C1'	-5.74	112.48	118.80
24	YA	2559	C	N3-C2-O2	-5.74	117.88	121.90
1	XA	618	C	N3-C2-O2	-5.74	117.88	121.90
24	YA	1588	C	C6-N1-C2	-5.74	118.01	120.30
25	RB	22	U	N1-C2-O2	5.73	126.81	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1020	U	N1-C2-O2	5.73	126.81	122.80
24	YA	1474	C	C6-N1-C2	-5.73	118.01	120.30
24	RA	2556	C	N1-C2-O2	5.73	122.33	118.90
1	QA	697	U	N1-C2-O2	5.72	126.81	122.80
25	RB	31	C	C5-C6-N1	5.72	123.86	121.00
24	RA	595	C	C6-N1-C2	-5.72	118.01	120.30
1	XA	35	G	C6-C5-N7	-5.71	126.97	130.40
24	YA	231	C	C6-N1-C2	-5.71	118.01	120.30
24	RA	1462	C	N3-C2-O2	-5.71	117.90	121.90
24	RA	1899	G	N3-C2-N2	-5.71	115.90	119.90
1	XA	530	G	N3-C4-N9	5.71	129.43	126.00
24	YA	2726	U	C2-N1-C1'	5.71	124.55	117.70
25	YB	31	C	C6-N1-C1'	-5.71	113.95	120.80
1	XA	1362(A)	C	N3-C2-O2	-5.70	117.91	121.90
24	YA	1920	C	C5-C6-N1	5.70	123.85	121.00
1	QA	652	U	N3-C2-O2	-5.70	118.21	122.20
24	RA	1267	U	N3-C2-O2	-5.69	118.22	122.20
1	XA	749	C	N1-C2-O2	5.68	122.31	118.90
24	YA	2712	U	C2-N1-C1'	5.68	124.52	117.70
24	YA	2787	C	C6-N1-C2	-5.68	118.03	120.30
24	YA	1781	C	N1-C2-O2	5.68	122.31	118.90
9	XI	2	GLU	N-CA-C	-5.68	95.66	111.00
1	QA	37	U	N3-C2-O2	-5.68	118.23	122.20
1	QA	1065	U	P-O3'-C3'	5.68	126.51	119.70
24	RA	758	C	N3-C2-O2	-5.68	117.93	121.90
1	XA	1395	C	N3-C2-O2	-5.67	117.93	121.90
24	YA	650	C	C6-N1-C2	-5.67	118.03	120.30
44	YZ	5	LEU	CA-CB-CG	5.67	128.35	115.30
22	XV	35	C	C6-N1-C2	-5.67	118.03	120.30
24	YA	1961	C	N1-C2-O2	5.67	122.30	118.90
24	YA	529	A	C8-N9-C4	-5.67	103.53	105.80
24	YA	1202	C	N1-C2-O2	5.67	122.30	118.90
25	YB	31	C	C5-C6-N1	5.67	123.84	121.00
24	YA	2416	C	C6-N1-C2	-5.67	118.03	120.30
1	QA	1186	G	N3-C4-N9	5.67	129.40	126.00
24	YA	1666	G	N1-C6-O6	-5.67	116.50	119.90
24	YA	2100	G	N3-C4-C5	-5.66	125.77	128.60
24	YA	2889	C	N1-C2-O2	5.66	122.30	118.90
24	RA	1882	C	N1-C2-O2	5.66	122.30	118.90
24	YA	2155	G	N3-C4-C5	-5.66	125.77	128.60
1	QA	346	G	N3-C4-N9	5.66	129.39	126.00
24	RA	2468	G	C4-N9-C1'	5.66	133.85	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	2179	C	C6-N1-C2	-5.65	118.04	120.30
24	YA	2342	C	N3-C2-O2	-5.65	117.94	121.90
24	RA	308	G	O4'-C1'-N9	5.65	112.72	108.20
24	YA	120	U	C6-N1-C2	-5.65	117.61	121.00
1	XA	442	C	N1-C2-O2	5.64	122.29	118.90
24	YA	2179	C	N1-C2-O2	5.64	122.29	118.90
25	RB	44	G	C8-N9-C1'	5.64	134.33	127.00
24	YA	1774	C	C6-N1-C2	-5.64	118.04	120.30
24	YA	556	G	C4-C5-N7	5.64	113.06	110.80
24	RA	2248	C	C6-N1-C2	-5.63	118.05	120.30
24	YA	755	C	C6-N1-C2	-5.63	118.05	120.30
24	YA	1462	C	N3-C2-O2	-5.63	117.96	121.90
24	RA	1920	C	C6-N1-C2	-5.62	118.05	120.30
24	RA	2321	G	C4-N9-C1'	5.62	133.81	126.50
24	YA	1332	G	N3-C4-N9	5.62	129.37	126.00
24	RA	1742	C	N1-C2-O2	5.62	122.27	118.90
24	YA	857	C	C5-C6-N1	5.62	123.81	121.00
24	YA	2814	C	C6-N1-C2	-5.62	118.05	120.30
26	YD	34	VAL	C-N-CA	5.62	135.74	121.70
25	RB	43	C	N3-C2-O2	-5.61	117.97	121.90
24	YA	2073	C	C6-N1-C2	-5.60	118.06	120.30
24	RA	867	C	C6-N1-C2	-5.59	118.06	120.30
24	YA	654	A	C2-N3-C4	5.59	113.40	110.60
24	YA	1256	G	N3-C4-C5	-5.59	125.80	128.60
24	RA	234	C	N3-C2-O2	-5.59	117.99	121.90
24	YA	459	U	N1-C2-O2	5.59	126.71	122.80
24	YA	1313	U	C6-N1-C2	-5.59	117.65	121.00
24	YA	2683	C	N1-C2-O2	5.59	122.25	118.90
24	RA	749	C	N3-C2-O2	-5.59	117.99	121.90
1	QA	960	U	N1-C2-O2	5.58	126.71	122.80
24	RA	1544	C	N1-C2-O2	5.58	122.25	118.90
24	RA	1742	C	C5-C6-N1	5.58	123.79	121.00
1	XA	618	C	N1-C2-O2	5.58	122.25	118.90
1	QA	1395	C	N3-C2-O2	-5.58	118.00	121.90
24	RA	1947	C	N1-C2-O2	5.58	122.25	118.90
24	RA	2066	C	N1-C2-O2	5.58	122.25	118.90
25	RB	37	C	C6-N1-C2	-5.57	118.07	120.30
24	YA	1417	C	C6-N1-C2	-5.57	118.07	120.30
24	YA	2667	C	N1-C2-O2	5.57	122.24	118.90
24	YA	2794	C	C6-N1-C2	-5.57	118.07	120.30
24	RA	285	C	N1-C2-O2	5.56	122.24	118.90
24	RA	912	C	C6-N1-C2	-5.56	118.08	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	2785	C	C6-N1-C2	-5.56	118.08	120.30
24	RA	1135	C	N3-C2-O2	-5.56	118.01	121.90
24	YA	1157	G	C4-N9-C1'	5.56	133.73	126.50
24	RA	1510	A	C2-N3-C4	5.56	113.38	110.60
24	RA	1644	C	N3-C2-O2	-5.56	118.01	121.90
24	RA	1979	C	C6-N1-C2	-5.56	118.08	120.30
24	YA	1882	C	N1-C2-O2	5.56	122.23	118.90
31	YI	35	LEU	CA-CB-CG	5.56	128.08	115.30
24	RA	1980	G	C4-N9-C1'	5.55	133.72	126.50
24	YA	1257	C	C6-N1-C2	-5.55	118.08	120.30
24	YA	1534	G	C2-N3-C4	5.55	114.68	111.90
2	QB	158	LEU	CA-CB-CG	5.55	128.07	115.30
24	RA	669	G	N3-C4-C5	-5.55	125.82	128.60
24	YA	1882	C	C5-C6-N1	5.55	123.78	121.00
24	YA	2490	G	C4-N9-C1'	5.55	133.72	126.50
24	RA	1549	C	N1-C2-O2	5.55	122.23	118.90
1	XA	186(F)	C	N1-C2-O2	5.54	122.23	118.90
24	YA	1064	C	C5-C6-N1	5.54	123.77	121.00
1	QA	1118	C	N3-C2-O2	-5.54	118.02	121.90
24	YA	2343	C	N1-C2-O2	5.54	122.22	118.90
13	XM	66	LEU	C-N-CA	5.54	135.54	121.70
24	RA	708	C	N1-C2-O2	5.53	122.22	118.90
24	YA	99	U	OP2-P-O3'	5.53	117.37	105.20
24	YA	1267	U	N3-C2-O2	-5.53	118.33	122.20
25	RB	27	C	C6-N1-C2	-5.53	118.09	120.30
1	XA	738	C	C6-N1-C2	-5.53	118.09	120.30
8	QH	112	LEU	CA-CB-CG	5.52	128.01	115.30
24	RA	155	C	N1-C2-O2	5.52	122.21	118.90
24	YA	1077	A	C2-N3-C4	5.52	113.36	110.60
24	RA	1656	C	C6-N1-C2	-5.52	118.09	120.30
1	QA	1020	U	N3-C2-O2	-5.51	118.34	122.20
24	RA	2666	C	C5-C6-N1	5.50	123.75	121.00
22	XV	76	C	C5-C6-N1	5.50	123.75	121.00
24	RA	965	C	C6-N1-C2	-5.50	118.10	120.30
24	RA	1407	C	N3-C2-O2	-5.50	118.05	121.90
24	RA	2006	C	C5-C6-N1	5.50	123.75	121.00
24	YA	848	G	N3-C4-N9	5.50	129.30	126.00
24	YA	2342	C	C6-N1-C2	-5.50	118.10	120.30
1	QA	91	C	N1-C2-O2	5.49	122.20	118.90
24	RA	373	U	C6-N1-C2	-5.49	117.70	121.00
1	XA	1290	G	N3-C4-N9	5.49	129.30	126.00
24	YA	1598	C	C6-N1-C2	-5.49	118.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	2244	U	C5-C4-O4	-5.49	122.60	125.90
24	RA	797	C	C6-N1-C2	-5.49	118.10	120.30
24	YA	2031	A	O4'-C1'-N9	5.49	112.59	108.20
24	YA	2089	U	N3-C2-O2	-5.49	118.36	122.20
1	XA	221	C	C6-N1-C2	-5.49	118.10	120.30
1	QA	328	C	P-O3'-C3'	5.49	126.28	119.70
24	RA	2578	G	N1-C6-O6	-5.49	116.61	119.90
1	XA	1404	C	N1-C2-O2	5.47	122.18	118.90
24	YA	1830	C	C5-C6-N1	5.47	123.74	121.00
24	RA	1961	C	N1-C2-O2	5.47	122.18	118.90
24	RA	2874	C	C6-N1-C2	-5.47	118.11	120.30
24	RA	915	C	N1-C2-O2	5.46	122.18	118.90
24	RA	1505	C	C5-C6-N1	5.46	123.73	121.00
24	YA	1370	C	C6-N1-C2	-5.46	118.11	120.30
24	YA	828	U	C6-N1-C1'	-5.46	113.55	121.20
24	YA	1306	C	N1-C2-O2	5.46	122.18	118.90
24	RA	731	C	C2-N1-C1'	5.46	124.80	118.80
1	QA	58	C	C6-N1-C2	-5.46	118.12	120.30
24	RA	1372	U	C2-N3-C4	5.46	130.27	127.00
24	RA	1505	C	C6-N1-C2	-5.46	118.12	120.30
24	YA	944	G	C4-N9-C1'	5.46	133.59	126.50
24	RA	459	U	N3-C2-O2	-5.45	118.38	122.20
24	YA	1905	C	N1-C2-O2	5.45	122.17	118.90
24	RA	1675	C	N1-C2-O2	5.45	122.17	118.90
1	XA	449	C	C2-N1-C1'	5.45	124.80	118.80
24	YA	208	C	C6-N1-C2	-5.45	118.12	120.30
24	RA	2688	U	N1-C2-O2	5.44	126.61	122.80
24	YA	1157	G	C8-N9-C1'	-5.44	119.92	127.00
24	YA	679	C	C6-N1-C2	-5.44	118.12	120.30
24	RA	776	G	N3-C4-N9	5.44	129.26	126.00
24	RA	2248	C	C5-C6-N1	5.44	123.72	121.00
24	YA	1675	C	N1-C2-O2	5.43	122.16	118.90
1	QA	563	A	C4-N9-C1'	5.43	136.08	126.30
1	XA	1404	C	N3-C2-O2	-5.43	118.10	121.90
24	YA	721	C	C6-N1-C2	-5.43	118.13	120.30
24	YA	974(A)	C	N1-C2-O2	5.43	122.16	118.90
24	RA	2006	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	2468	G	C8-N9-C1'	-5.42	119.95	127.00
24	RA	2692	C	N1-C2-O2	5.42	122.15	118.90
1	QA	749	C	C6-N1-C2	-5.42	118.13	120.30
24	RA	2870	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	2648	C	C5-C6-N1	5.42	123.71	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	54	C	N1-C2-O2	5.42	122.15	118.90
24	YA	641	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	1598	C	N3-C2-O2	-5.42	118.11	121.90
1	XA	960	U	C2-N1-C1'	5.41	124.20	117.70
24	RA	828	U	C5-C6-N1	5.41	125.40	122.70
24	YA	1678	G	C8-N9-C4	-5.41	104.24	106.40
24	YA	2128	C	N1-C2-O2	5.40	122.14	118.90
26	RD	34	VAL	C-N-CA	5.40	135.21	121.70
24	RA	1053	C	C6-N1-C2	-5.40	118.14	120.30
24	RA	1533	C	N1-C2-O2	5.40	122.14	118.90
24	RA	2683	C	N3-C2-O2	-5.40	118.12	121.90
24	RA	1506	C	C6-N1-C2	-5.39	118.14	120.30
1	XA	1113	C	C6-N1-C2	-5.39	118.14	120.30
24	RA	1881	C	C6-N1-C2	-5.39	118.14	120.30
1	XA	1514	C	C6-N1-C2	-5.39	118.14	120.30
24	RA	912	C	N1-C2-O2	5.39	122.13	118.90
24	YA	1507	A	C2-N3-C4	5.39	113.29	110.60
24	RA	93	C	C6-N1-C2	-5.39	118.14	120.30
24	RA	420	C	C6-N1-C2	-5.39	118.15	120.30
24	RA	1046	A	C2-N3-C4	5.39	113.29	110.60
1	XA	530	G	N3-C4-C5	-5.39	125.91	128.60
24	RA	1909	C	N1-C2-O2	5.38	122.13	118.90
1	XA	529	G	C4-C5-N7	5.38	112.95	110.80
24	YA	654(T)	C	N3-C2-O2	-5.38	118.14	121.90
24	YA	2342	C	N1-C2-O2	5.38	122.12	118.90
24	YA	384	U	N3-C2-O2	-5.37	118.44	122.20
1	QA	1028(A)	C	C6-N1-C2	-5.37	118.15	120.30
24	RA	1433	U	N1-C2-O2	5.37	126.56	122.80
1	XA	1439	C	C6-N1-C2	-5.37	118.15	120.30
1	QA	1381	U	N3-C2-O2	-5.36	118.44	122.20
1	QA	1263	C	N1-C2-O2	5.36	122.12	118.90
19	QS	8	GLY	N-CA-C	5.36	126.50	113.10
1	XA	330	C	C5-C6-N1	5.36	123.68	121.00
24	YA	1021	A	C8-N9-C4	-5.36	103.66	105.80
24	RA	2307	G	C4-N9-C1'	5.36	133.46	126.50
24	YA	267	C	C6-N1-C2	-5.35	118.16	120.30
24	YA	817	C	C6-N1-C2	-5.35	118.16	120.30
42	RX	66	LEU	CA-CB-CG	5.35	127.61	115.30
24	YA	1598	C	N1-C2-O2	5.35	122.11	118.90
24	RA	2468	G	O4'-C1'-N9	5.34	112.48	108.20
1	XA	328	C	P-O3'-C3'	5.34	126.11	119.70
24	YA	2681	C	P-O3'-C3'	5.34	126.11	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	1779	U	C2-N1-C1'	5.34	124.11	117.70
24	RA	436	C	N3-C2-O2	-5.34	118.16	121.90
1	XA	252	U	C2-N1-C1'	5.34	124.11	117.70
24	YA	1535	U	C5-C6-N1	5.34	125.37	122.70
24	RA	2254	C	N1-C2-O2	5.33	122.10	118.90
24	YA	1290	C	C6-N1-C2	-5.33	118.17	120.30
24	RA	1267	U	N1-C2-O2	5.33	126.53	122.80
24	YA	1474	C	N1-C2-O2	5.33	122.10	118.90
1	QA	449	C	N3-C2-O2	-5.33	118.17	121.90
24	YA	1881	C	C5-C6-N1	5.33	123.66	121.00
1	XA	812	C	P-O3'-C3'	5.32	126.09	119.70
22	XV	1	C	C5-C6-N1	5.32	123.66	121.00
24	RA	730	C	C2'-C3'-O3'	5.31	122.20	113.70
24	YA	1833	U	N3-C2-O2	-5.31	118.48	122.20
24	YA	18	C	C6-N1-C2	-5.31	118.18	120.30
1	QA	1452	C	N1-C2-O2	5.31	122.08	118.90
24	RA	2065	C	C5-C6-N1	5.31	123.65	121.00
24	YA	1544	C	N1-C2-O2	5.31	122.08	118.90
24	RA	2814	C	N3-C2-O2	-5.30	118.19	121.90
1	XA	714	G	C8-N9-C4	-5.30	104.28	106.40
1	XA	1228	C	C5-C6-N1	5.30	123.65	121.00
24	RA	1202	C	N1-C2-O2	5.30	122.08	118.90
24	YA	2771	C	C6-N1-C2	-5.30	118.18	120.30
1	QA	397	A	C2-N3-C4	5.30	113.25	110.60
24	RA	1947	C	C5-C6-N1	5.30	123.65	121.00
24	RA	1947	C	C6-N1-C2	-5.30	118.18	120.30
24	YA	1005	C	C6-N1-C2	-5.30	118.18	120.30
24	RA	2101	G	N7-C8-N9	5.30	115.75	113.10
25	RB	77	U	N3-C2-O2	-5.30	118.49	122.20
1	QA	1260	C	N1-C2-O2	5.30	122.08	118.90
24	YA	2779	U	N1-C2-O2	5.29	126.50	122.80
24	RA	201	C	N3-C2-O2	-5.28	118.20	121.90
24	YA	1669	A	C2-N3-C4	5.28	113.24	110.60
1	QA	1121	U	C5-C6-N1	5.28	125.34	122.70
24	YA	1892	C	C6-N1-C2	-5.28	118.19	120.30
24	YA	2584	U	N1-C2-O2	5.28	126.50	122.80
24	RA	2856	C	C6-N1-C2	-5.28	118.19	120.30
24	YA	672	C	C5-C6-N1	5.28	123.64	121.00
24	RA	1462	C	N1-C2-O2	5.28	122.07	118.90
24	RA	417	C	C5-C6-N1	5.28	123.64	121.00
24	RA	1372	U	N3-C2-O2	-5.28	118.51	122.20
25	YB	22	U	N3-C2-O2	-5.28	118.51	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	487	C	N1-C2-O2	5.27	122.06	118.90
1	XA	1290	G	N3-C4-C5	-5.27	125.96	128.60
24	RA	1370	C	C6-N1-C2	-5.27	118.19	120.30
1	QA	56	U	C5-C4-O4	-5.27	122.74	125.90
24	RA	2556	C	N3-C2-O2	-5.27	118.21	121.90
24	YA	2712	U	N1-C2-O2	5.27	126.49	122.80
24	RA	669	G	N3-C4-N9	5.27	129.16	126.00
1	XA	58	C	C5-C6-N1	5.26	123.63	121.00
24	YA	155	C	N1-C2-O2	5.26	122.06	118.90
24	YA	976	C	C6-N1-C2	-5.26	118.19	120.30
1	QA	528	C	C6-N1-C2	-5.26	118.20	120.30
5	QE	91	LEU	CA-CB-CG	5.26	127.40	115.30
24	RA	2043	C	N1-C2-O2	5.26	122.06	118.90
24	RA	1509	C	C6-N1-C1'	-5.26	114.49	120.80
24	RA	2501	C	C6-N1-C1'	5.26	127.11	120.80
24	YA	1005	C	N3-C2-O2	-5.26	118.22	121.90
1	QA	960	U	N3-C2-O2	-5.25	118.52	122.20
1	XA	792	A	O4'-C1'-N9	5.25	112.40	108.20
24	RA	1510	A	N3-C4-N9	5.25	131.60	127.40
24	YA	1881	C	N1-C2-O2	5.25	122.05	118.90
24	RA	729	G	C8-N9-C1'	-5.25	120.18	127.00
1	QA	652	U	N1-C2-O2	5.24	126.47	122.80
24	RA	1180	C	N1-C2-O2	5.24	122.05	118.90
24	YA	2015	A	N7-C8-N9	5.24	116.42	113.80
1	QA	1228	C	C5-C6-N1	5.24	123.62	121.00
24	RA	269	U	N3-C2-O2	-5.24	118.53	122.20
24	YA	912	C	N1-C2-O2	5.24	122.04	118.90
24	YA	1314	C	N3-C2-O2	-5.24	118.23	121.90
24	RA	1065	U	N1-C2-O2	5.24	126.47	122.80
24	RA	1535	U	C2-N1-C1'	5.24	123.99	117.70
1	QA	1070	U	N3-C2-O2	-5.24	118.53	122.20
24	YA	99	U	P-O3'-C3'	5.24	125.98	119.70
24	YA	580	C	C6-N1-C2	-5.23	118.21	120.30
1	QA	943	U	N3-C2-O2	-5.23	118.54	122.20
24	RA	529	A	C8-N9-C4	-5.23	103.71	105.80
24	YA	1675	C	N3-C2-O2	-5.23	118.24	121.90
24	YA	2688	U	C2-N1-C1'	5.22	123.97	117.70
1	QA	419	C	C6-N1-C2	-5.22	118.21	120.30
9	XI	56	LEU	CA-CB-CG	5.22	127.31	115.30
24	YA	595	C	C5-C6-N1	5.22	123.61	121.00
1	XA	137	C	C6-N1-C2	-5.22	118.21	120.30
24	RA	897	C	N1-C2-O2	5.21	122.03	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	898	C	N1-C2-O2	5.21	122.03	118.90
24	RA	1332	G	C8-N9-C1'	-5.21	120.22	127.00
1	QA	789	U	N1-C2-O2	5.21	126.44	122.80
24	YA	1549	C	N1-C2-O2	5.21	122.03	118.90
1	XA	943	U	N3-C2-O2	-5.21	118.56	122.20
24	YA	2724	C	N3-C2-O2	-5.21	118.26	121.90
24	YA	669	G	N3-C4-C5	-5.21	126.00	128.60
24	YA	2043	C	C2-N1-C1'	5.20	124.52	118.80
24	YA	2591	C	C5-C6-N1	5.20	123.60	121.00
1	XA	1132	C	C6-N1-C2	-5.20	118.22	120.30
1	XA	1347	G	O4'-C1'-N9	5.20	112.36	108.20
24	RA	1915	U	N1-C2-O2	5.20	126.44	122.80
24	YA	417	C	C5-C6-N1	5.20	123.60	121.00
24	YA	1830	C	C6-N1-C2	-5.20	118.22	120.30
24	RA	2460	U	N3-C2-O2	-5.19	118.56	122.20
24	YA	2450	A	N7-C8-N9	5.19	116.40	113.80
24	YA	2683	C	N3-C2-O2	-5.19	118.27	121.90
1	QA	789	U	C2-N1-C1'	5.19	123.93	117.70
1	QA	923	A	N7-C8-N9	5.19	116.39	113.80
24	RA	2073	C	C6-N1-C2	-5.19	118.22	120.30
24	RA	2442	C	C6-N1-C2	-5.19	118.22	120.30
26	RD	131	LEU	CA-CB-CG	5.19	127.23	115.30
1	XA	54	C	N3-C2-O2	-5.19	118.27	121.90
25	RB	8	U	N1-C2-O2	5.18	126.43	122.80
24	YA	372	G	C4-N9-C1'	-5.18	119.76	126.50
1	QA	169	C	N3-C2-O2	-5.18	118.27	121.90
24	RA	1915	U	N3-C2-O2	-5.18	118.57	122.20
24	RA	273(F)	C	C5-C6-N1	5.18	123.59	121.00
22	XV	35	C	N3-C2-O2	-5.18	118.28	121.90
24	YA	1234	U	N1-C2-O2	5.18	126.42	122.80
24	YA	2874	C	N3-C2-O2	-5.18	118.28	121.90
24	YA	2248	C	C6-N1-C2	-5.18	118.23	120.30
24	RA	2403	C	C6-N1-C2	-5.17	118.23	120.30
24	YA	2724	C	N1-C2-O2	5.17	122.00	118.90
24	RA	1675	C	N3-C2-O2	-5.17	118.28	121.90
24	RA	1502	C	N1-C2-O2	5.17	122.00	118.90
24	YA	508	G	N3-C4-C5	-5.17	126.02	128.60
24	RA	1433	U	N3-C2-O2	-5.17	118.58	122.20
24	RA	1971	A	C2-N3-C4	5.17	113.18	110.60
24	YA	923	C	C5-C6-N1	5.17	123.58	121.00
24	YA	1551	C	C6-N1-C2	-5.17	118.23	120.30
24	YA	837	C	C6-N1-C2	-5.17	118.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	932	C	N1-C2-O2	5.16	122.00	118.90
24	RA	2461	C	N1-C2-O2	5.16	122.00	118.90
24	RA	2161	C	N3-C2-O2	-5.16	118.29	121.90
24	RA	2351	G	C8-N9-C4	-5.16	104.34	106.40
24	YA	1640	C	C5-C6-N1	5.16	123.58	121.00
24	RA	436	C	N1-C2-O2	5.15	121.99	118.90
25	RB	31	C	C6-N1-C1'	-5.15	114.62	120.80
24	YA	1513	C	C5-C6-N1	5.15	123.58	121.00
24	YA	2701	C	C5-C6-N1	5.15	123.58	121.00
24	RA	1920	C	N1-C2-O2	5.15	121.99	118.90
24	RA	923	C	C6-N1-C2	-5.15	118.24	120.30
24	YA	2626	C	C6-N1-C2	-5.15	118.24	120.30
24	YA	1604	C	N3-C2-O2	-5.15	118.30	121.90
24	RA	1810	A	C8-N9-C4	-5.14	103.74	105.80
24	YA	503	A	P-O3'-C3'	5.14	125.87	119.70
1	XA	699	C	C6-N1-C2	-5.14	118.24	120.30
24	YA	2752	C	N1-C2-O2	5.14	121.99	118.90
1	XA	347	G	O4'-C1'-N9	5.14	112.31	108.20
24	RA	2626	C	C6-N1-C2	-5.14	118.25	120.30
24	YA	1306	C	C6-N1-C2	-5.14	118.24	120.30
1	QA	620	C	N1-C2-O2	5.14	121.98	118.90
1	QA	1059	C	C6-N1-C2	-5.14	118.25	120.30
24	RA	343	C	C6-N1-C2	-5.14	118.25	120.30
1	QA	1279	A	C8-N9-C4	-5.14	103.75	105.80
22	QV	76	C	C5-C6-N1	5.14	123.57	121.00
1	XA	620	C	N1-C2-O2	5.14	121.98	118.90
24	RA	640	C	C6-N1-C2	-5.13	118.25	120.30
24	YA	2471	C	C6-N1-C2	-5.13	118.25	120.30
1	QA	1498	U	P-O3'-C3'	5.13	125.86	119.70
1	QA	266	G	C5-C6-O6	-5.13	125.52	128.60
24	RA	2626	C	C5-C6-N1	5.13	123.56	121.00
24	YA	537	C	C2-N1-C1'	5.13	124.44	118.80
24	RA	1598	C	N1-C2-O2	5.13	121.98	118.90
24	RA	1775	U	C5-C4-O4	-5.13	122.82	125.90
24	YA	1178	C	C6-N1-C2	-5.13	118.25	120.30
24	RA	308	G	OP2-P-O3'	-5.13	93.92	105.20
24	YA	196	A	O4'-C1'-N9	5.12	112.30	108.20
24	RA	2211	G	C4-N9-C1'	5.12	133.16	126.50
1	XA	1225	A	C2-N3-C4	5.11	113.16	110.60
24	YA	183	C	N3-C2-O2	-5.11	118.32	121.90
24	YA	1591	G	N3-C4-N9	5.11	129.07	126.00
24	RA	2755	C	C6-N1-C2	-5.11	118.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	2015	A	C8-N9-C4	-5.11	103.75	105.80
24	RA	2889	C	N1-C2-O2	5.11	121.97	118.90
1	QA	675	A	N7-C8-N9	5.11	116.35	113.80
24	RA	976	C	N3-C2-O2	-5.11	118.33	121.90
24	YA	1293	C	C6-N1-C2	-5.11	118.26	120.30
24	RA	1314	C	C2-N1-C1'	5.11	124.42	118.80
24	YA	867	C	C6-N1-C2	-5.11	118.26	120.30
24	YA	595	C	C6-N1-C2	-5.10	118.26	120.30
1	QA	1500	A	O4'-C1'-N9	5.10	112.28	108.20
9	QI	53	VAL	CA-CB-CG1	5.10	118.55	110.90
1	XA	1297	C	P-O3'-C3'	5.10	125.82	119.70
24	YA	1776	G	N3-C4-N9	5.10	129.06	126.00
25	YB	70	C	C6-N1-C2	-5.10	118.26	120.30
24	RA	2646	C	C6-N1-C2	-5.10	118.26	120.30
24	YA	231	C	N1-C2-O2	5.10	121.96	118.90
24	YA	2416	C	C5-C6-N1	5.10	123.55	121.00
1	QA	522	C	N1-C2-O2	5.10	121.96	118.90
24	RA	105	C	C6-N1-C2	-5.10	118.26	120.30
24	RA	634	C	C6-N1-C2	-5.10	118.26	120.30
25	RB	77	U	N1-C2-O2	5.10	126.37	122.80
24	YA	143	C	C6-N1-C2	-5.10	118.26	120.30
24	YA	1343	G	N3-C4-N9	5.10	129.06	126.00
1	XA	1498	U	P-O3'-C3'	5.10	125.81	119.70
24	YA	1640	C	N3-C2-O2	-5.09	118.33	121.90
24	YA	2794	C	N1-C2-O2	5.09	121.96	118.90
1	QA	738	C	C5-C6-N1	5.09	123.55	121.00
24	RA	404	C	P-O3'-C3'	5.09	125.81	119.70
24	YA	2658	C	N3-C2-O2	-5.09	118.34	121.90
24	RA	459	U	N1-C2-O2	5.09	126.36	122.80
24	YA	1679	U	N1-C2-O2	5.09	126.36	122.80
24	YA	1894	C	C6-N1-C2	-5.09	118.27	120.30
1	XA	252	U	N1-C2-O2	5.08	126.36	122.80
1	QA	54	C	N1-C2-O2	5.08	121.95	118.90
24	RA	2137	C	N1-C2-O2	5.08	121.95	118.90
24	RA	529	A	C2-N3-C4	5.08	113.14	110.60
24	YA	2720	U	N3-C2-O2	-5.08	118.64	122.20
24	YA	234	C	C6-N1-C2	-5.08	118.27	120.30
25	YB	22	U	N1-C2-O2	5.08	126.36	122.80
24	RA	1207	C	C5-C6-N1	5.08	123.54	121.00
24	RA	2456	C	C6-N1-C2	-5.08	118.27	120.30
24	YA	1526	G	C6-C5-N7	-5.08	127.36	130.40
44	YZ	150	LEU	CA-CB-CG	5.08	126.97	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	169	C	C6-N1-C2	-5.07	118.27	120.30
1	QA	563	A	C8-N9-C1'	-5.07	118.58	127.70
24	YA	2759	G	N3-C4-N9	5.07	129.04	126.00
24	RA	248	G	C6-C5-N7	-5.07	127.36	130.40
24	RA	308	G	OP1-P-O3'	5.07	116.34	105.20
24	YA	67	U	C6-N1-C2	-5.07	117.96	121.00
26	YD	32	SER	C-N-CA	5.07	134.37	121.70
24	RA	1513	C	N3-C2-O2	-5.06	118.36	121.90
24	RA	1598	C	N3-C2-O2	-5.06	118.36	121.90
1	QA	528	C	N1-C2-O2	5.06	121.94	118.90
24	RA	1370	C	N1-C2-O2	5.06	121.94	118.90
24	RA	1902	C	N3-C2-O2	-5.06	118.36	121.90
1	XA	1140	C	C5-C6-N1	5.06	123.53	121.00
24	RA	1686	C	C2-N1-C1'	5.05	124.36	118.80
24	YA	828	U	C6-N1-C2	-5.05	117.97	121.00
24	YA	893	C	N3-C2-O2	-5.05	118.36	121.90
1	QA	1303	C	N1-C2-O2	5.05	121.93	118.90
24	RA	2043	C	C2-N1-C1'	5.05	124.35	118.80
24	YA	271(B)	G	P-O3'-C3'	5.05	125.75	119.70
24	YA	413	C	C6-N1-C2	-5.05	118.28	120.30
24	RA	785	G	C8-N9-C4	-5.04	104.38	106.40
24	RA	2248	C	N1-C2-O2	5.04	121.93	118.90
24	YA	755	C	C5-C6-N1	5.04	123.52	121.00
1	XA	345	C	P-O3'-C3'	5.04	125.75	119.70
1	XA	812	C	OP2-P-O3'	5.04	116.29	105.20
24	YA	2056	G	N3-C4-N9	5.04	129.02	126.00
1	QA	252	U	C2-N1-C1'	5.04	123.75	117.70
24	RA	691	C	C6-N1-C2	-5.04	118.28	120.30
24	RA	1049	C	C6-N1-C2	-5.04	118.28	120.30
1	XA	618	C	C5-C6-N1	5.04	123.52	121.00
9	QI	111	ARG	NE-CZ-NH1	5.03	122.82	120.30
24	RA	2321	G	N7-C8-N9	5.03	115.62	113.10
24	RA	2825	C	N1-C2-O2	5.03	121.92	118.90
1	XA	993	G	N3-C4-N9	5.03	129.02	126.00
24	YA	1830	C	N1-C2-O2	5.03	121.92	118.90
24	RA	1487	G	N3-C4-N9	5.03	129.02	126.00
1	XA	56	U	N3-C4-O4	5.03	122.92	119.40
1	XA	1028	C	C5-C6-N1	5.03	123.51	121.00
24	RA	641	C	C5-C6-N1	5.03	123.51	121.00
24	YA	1135	C	N1-C2-O2	5.03	121.92	118.90
24	YA	1686	C	C2-N1-C1'	5.02	124.33	118.80
1	QA	1439	C	C6-N1-C2	-5.02	118.29	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	828	U	C6-N1-C2	-5.02	117.99	121.00
24	RA	1513	C	C6-N1-C2	-5.02	118.29	120.30
24	YA	114	U	N3-C2-O2	-5.02	118.68	122.20
24	YA	2307	G	C8-N9-C1'	-5.02	120.47	127.00
24	RA	1864	U	N3-C2-O2	-5.02	118.69	122.20
1	QA	1378	C	C6-N1-C2	-5.02	118.29	120.30
24	RA	2233	U	N3-C2-O2	-5.02	118.69	122.20
24	RA	1644	C	C5-C6-N1	5.02	123.51	121.00
24	RA	1899	G	N9-C4-C5	5.02	107.41	105.40
24	YA	856	C	C2-N1-C1'	5.02	124.32	118.80
24	YA	445	C	N3-C2-O2	-5.01	118.39	121.90
24	YA	974(A)	C	C2-N1-C1'	5.01	124.31	118.80
24	YA	634	C	C6-N1-C2	-5.01	118.30	120.30
24	YA	1504	C	N1-C2-O2	5.01	121.91	118.90
24	YA	2460	U	N3-C2-O2	-5.01	118.69	122.20
24	YA	1267	U	N1-C2-O2	5.01	126.31	122.80
1	QA	410	G	OP1-P-O3'	5.01	116.22	105.20
24	RA	2874	C	C2-N1-C1'	5.01	124.31	118.80
24	YA	2720	U	N1-C2-O2	5.01	126.31	122.80
24	RA	1294	U	N1-C2-O2	5.01	126.31	122.80
10	QJ	90	LEU	CA-CB-CG	5.01	126.82	115.30
24	RA	2787	C	N1-C2-O2	5.01	121.90	118.90
1	XA	58	C	N1-C2-O2	5.01	121.90	118.90
24	YA	2594	C	C6-N1-C2	-5.00	118.30	120.30
24	RA	797	C	C5-C6-N1	5.00	123.50	121.00
24	RA	1578	U	N3-C2-O2	-5.00	118.70	122.20
1	XA	754	C	N1-C2-O2	5.00	121.90	118.90
24	RA	1022	G	P-O3'-C3'	5.00	125.70	119.70
24	RA	1830	C	N1-C2-O2	5.00	121.90	118.90
1	XA	754	C	C6-N1-C1'	-5.00	114.80	120.80

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	QD	33	MET	Peptide
29	RG	82	LEU	Peptide
44	RZ	52	SER	Peptide
12	XL	104	VAL	Peptide
27	YE	17	ASP	Peptide
29	YG	82	LEU	Peptide
44	YZ	52	SER	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32247	0	16276	508	0
1	XA	32249	0	16279	516	1
2	QB	1907	0	1958	28	0
2	XB	1915	0	1969	33	0
3	QC	1605	0	1668	40	0
3	XC	1605	0	1668	27	1
4	QD	1703	0	1763	39	0
4	XD	1703	0	1763	53	1
5	QE	1155	0	1213	21	0
5	XE	1155	0	1213	24	0
6	QF	843	0	857	17	0
6	XF	843	0	857	9	0
7	QG	1257	0	1296	27	0
7	XG	1257	0	1296	22	0
8	QH	1108	0	1165	29	0
8	XH	1108	0	1165	30	0
9	QI	989	0	1011	29	0
9	XI	998	0	1024	26	0
10	QJ	801	0	849	26	0
10	XJ	777	0	816	27	0
11	QK	885	0	904	24	1
11	XK	864	0	881	17	0
12	QL	975	0	1062	29	0
12	XL	956	0	1046	18	0
13	QM	955	0	1021	38	0
13	XM	946	0	1008	20	0
14	QN	492	0	528	16	0
14	XN	492	0	531	36	0
15	QO	734	0	771	14	0
15	XO	729	0	768	11	0
16	QP	705	0	725	10	0
16	XP	705	0	725	9	0
17	QQ	834	0	904	11	0
17	XQ	834	0	904	18	0
18	QR	574	0	644	14	0
18	XR	574	0	644	12	0
19	QS	665	0	686	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	XS	674	0	699	14	0
20	QT	763	0	861	15	0
20	XT	763	0	861	21	0
21	QU	217	0	234	5	0
21	XU	217	0	234	8	0
22	QV	1647	0	832	20	0
22	XV	1647	0	832	18	0
23	QX	418	0	209	10	0
23	XX	418	0	209	9	0
24	RA	62071	0	31291	830	4
24	YA	62091	0	31297	821	0
25	RB	2573	0	1306	27	0
25	YB	2573	0	1306	26	0
26	RD	2115	0	2195	50	0
26	YD	2115	0	2195	52	0
27	RE	1568	0	1634	53	0
27	YE	1568	0	1634	41	0
28	RF	1585	0	1632	25	0
28	YF	1585	0	1632	21	0
29	RG	1474	0	1535	33	0
29	YG	1474	0	1535	42	0
30	RH	1336	0	1418	33	0
30	YH	1336	0	1418	20	1
31	RI	1136	0	1223	15	0
31	YI	1136	0	1223	10	0
32	RN	1104	0	1180	23	0
32	YN	1104	0	1180	21	0
33	RO	933	0	996	23	0
33	YO	933	0	996	17	0
34	RP	1145	0	1228	35	0
34	YP	1122	0	1206	29	0
35	RQ	1122	0	1179	27	0
35	YQ	1122	0	1179	29	0
36	RR	960	0	1021	20	0
36	YR	960	0	1021	11	0
37	RS	882	0	942	19	0
37	YS	882	0	943	19	0
38	RT	1141	0	1202	26	0
38	YT	1141	0	1202	24	0
39	RU	964	0	1022	19	0
39	YU	964	0	1022	22	0
40	RV	779	0	852	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
40	YV	779	0	852	16	1
41	RW	900	0	964	16	0
41	YW	900	0	964	10	0
42	RX	725	0	778	9	0
42	YX	725	0	778	10	0
43	RY	818	0	909	16	0
43	YY	818	0	909	18	1
44	RZ	1461	0	1493	32	0
44	YZ	1461	0	1493	24	0
45	R0	643	0	667	12	0
45	Y0	593	0	612	15	0
46	R1	763	0	848	11	0
46	Y1	729	0	802	11	0
47	R2	581	0	629	11	0
47	Y2	581	0	629	9	2
48	R3	469	0	518	6	0
48	Y3	469	0	518	9	0
49	R4	565	0	557	12	0
49	Y4	565	0	557	21	0
50	R5	459	0	476	16	0
50	Y5	459	0	477	13	1
51	R6	453	0	473	9	0
51	Y6	453	0	473	11	0
52	R7	409	0	454	4	0
52	Y7	418	0	467	7	0
53	R8	517	0	582	17	0
53	Y8	517	0	582	19	0
54	R9	307	0	335	9	0
54	Y9	307	0	335	5	0
55	QA	69	0	0	0	0
55	QE	1	0	0	0	0
55	QH	1	0	0	0	0
55	QV	1	0	0	0	0
55	R1	1	0	0	0	0
55	RA	381	0	0	0	0
55	RB	9	0	0	0	0
55	RD	1	0	0	0	0
55	RE	1	0	0	0	0
55	RQ	1	0	0	0	0
55	XA	67	0	0	0	0
55	XE	1	0	0	0	0
55	Y0	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	Y5	1	0	0	0	0
55	Y7	2	0	0	0	0
55	YA	454	0	0	0	0
55	YB	8	0	0	0	0
55	YD	2	0	0	0	0
55	YE	1	0	0	0	0
55	YP	1	0	0	0	0
55	YQ	2	0	0	0	0
55	YR	2	0	0	0	0
56	QD	8	0	0	1	0
56	XD	8	0	0	3	0
57	QN	1	0	0	0	0
57	R4	1	0	0	0	0
57	R5	1	0	0	0	0
57	R6	1	0	0	0	0
57	R9	1	0	0	0	0
57	RY	1	0	0	0	0
57	XN	1	0	0	0	0
57	Y4	1	0	0	0	0
57	Y5	1	0	0	0	0
57	Y6	1	0	0	0	0
57	Y9	1	0	0	0	0
57	YY	1	0	0	0	0
All	All	291782	0	197805	4186	7

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 9.

All (4186) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:XN:24:CYS:SG	14:XN:40:CYS:HB2	1.54	1.47
4:XD:61:LYS:NZ	4:XD:61:LYS:CE	1.77	1.47
14:XN:29:ARG:HD2	14:XN:40:CYS:SG	1.67	1.33
14:XN:24:CYS:SG	14:XN:40:CYS:CB	2.36	1.14
14:XN:29:ARG:CD	14:XN:40:CYS:SG	2.36	1.13
24:RA:1657:C:O3'	27:RE:133:LYS:HG2	1.62	0.99
24:RA:1473:G:H5''	24:RA:1473:G:H8	1.29	0.97
24:RA:2135:A:H62	24:RA:2156:G:H21	1.03	0.96
24:YA:1359:A:N6	24:YA:1372:U:H3	1.63	0.96
1:XA:152:A:N6	1:XA:169:C:N3	2.14	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YY:76:CYS:HB3	43:YY:79:CYS:SG	2.09	0.92
24:YA:1270:C:H5''	24:YA:1271:G:H5'	1.52	0.90
24:YA:2701:C:H3'	24:YA:2702:U:H5''	1.54	0.88
24:YA:2096:U:H3	24:YA:2193:G:H1	0.87	0.87
1:XA:452:A:H62	1:XA:480:U:H3	1.17	0.86
24:RA:1473:G:H5''	24:RA:1473:G:C8	2.11	0.86
10:XJ:50:ILE:H	14:YN:41:ARG:HH12	1.22	0.86
24:RA:2675:A:H5'	33:RO:31:LYS:HE3	1.57	0.85
24:YA:2099:U:H3	24:YA:2190:G:H1	1.17	0.85
24:YA:1359:A:H62	24:YA:1372:U:H3	0.89	0.85
24:RA:1264:G:OP1	50:R5:19:ARG:NH2	2.10	0.84
24:RA:1654:A:OP1	36:RR:2:ARG:HG2	1.78	0.84
51:R6:13:CYS:HB3	51:R6:16:CYS:SG	2.18	0.83
14:YN:57:ARG:HE	14:YN:58:LYS:H	1.25	0.82
24:RA:1270:C:H5''	24:RA:1271:G:H5'	1.59	0.82
16:QP:45:THR:HG22	16:QP:47:ASP:H	1.43	0.82
1:XA:439:A:OP2	1:XA:493:G:N1	2.14	0.81
44:YZ:10:ARG:NH2	44:YZ:37:VAL:O	2.14	0.81
24:RA:2135:A:H62	24:RA:2156:G:N2	1.78	0.81
24:RA:1657:C:O2'	27:RE:133:LYS:HD2	1.80	0.80
24:RA:2135:A:N6	24:RA:2156:G:H21	1.78	0.80
44:YZ:5:LEU:H	44:YZ:59:LEU:HA	1.47	0.80
24:YA:2046:G:H5'	50:Y5:19:ARG:HG3	1.64	0.79
24:YA:2245:U:H5'	24:YA:2246:G:H5'	1.64	0.79
24:RA:307:G:H2'	24:RA:309:G:OP2	1.83	0.79
7:XG:62:PHE:HA	7:XG:124:LEU:HD11	1.65	0.78
1:QA:939:G:H5'	7:QG:102:ARG:HH12	1.49	0.78
44:YZ:52:SER:O	44:YZ:54:HIS:N	2.16	0.78
14:YN:24:CYS:SG	14:YN:40:CYS:CA	2.72	0.78
24:RA:527:C:N4	24:RA:2779:U:OP2	2.15	0.78
26:RD:8:PRO:HB3	26:RD:14:ARG:HB3	1.66	0.78
1:XA:1441:G:H21	1:XA:1460:A:H62	1.30	0.77
24:YA:2371:G:O2'	51:Y6:46:HIS:ND1	2.17	0.77
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.49	0.77
7:XG:111:ARG:HH12	7:XG:123:GLU:N	1.82	0.77
14:YN:29:ARG:HD3	14:YN:40:CYS:SG	2.25	0.77
24:YA:1800:C:OP2	26:YD:183:ARG:NH1	2.16	0.77
24:YA:1859:A:N6	24:YA:1883:G:O2'	2.17	0.77
24:RA:1224:G:N2	24:RA:1227:A:OP2	2.17	0.76
24:RA:2245:U:H5'	24:RA:2246:G:H5'	1.67	0.76
44:RZ:5:LEU:HD21	44:RZ:47:VAL:HG21	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:307:G:O5'	24:RA:307:G:H8	1.68	0.76
1:XA:992:U:H3	1:XA:1044:A:H62	1.34	0.76
24:YA:2125:G:O2'	24:YA:2173:A:N6	2.19	0.75
1:XA:157:G:H1	1:XA:164:U:H3	1.34	0.75
29:YG:67:LYS:HG3	49:Y4:5:ILE:HG12	1.68	0.75
24:YA:1055:G:H1	24:YA:1104:C:H42	1.34	0.74
1:QA:559:A:H4'	1:QA:560:U:H5''	1.68	0.74
1:QA:674:G:H2'	1:QA:675:A:H8	1.53	0.74
22:XV:19:G:O2'	22:XV:58:G:N2	2.20	0.74
24:RA:1817:G:OP1	26:RD:88:ARG:NH2	2.21	0.74
13:XM:99:ARG:HB3	13:XM:101:GLN:HE22	1.51	0.74
1:XA:1236:A:H4'	1:XA:1304:G:H4'	1.68	0.74
26:YD:8:PRO:HB3	26:YD:14:ARG:HB3	1.70	0.74
24:YA:2134:A:N6	24:YA:2156:G:O2'	2.21	0.73
24:YA:2584:U:H2'	24:YA:2585:U:H2'	1.70	0.73
24:RA:2406:U:OP1	24:RA:2411:A:N6	2.21	0.73
24:RA:527:C:N3	24:RA:2779:U:H5''	2.03	0.73
1:QA:618:C:H5'	1:QA:619:U:H5''	1.70	0.73
8:QH:29:SER:HB3	8:QH:32:LYS:HE2	1.69	0.73
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.68	0.73
24:YA:1607:C:N4	24:YA:1622:G:OP2	2.21	0.73
24:YA:2581:G:OP2	24:YA:2581:G:N2	2.19	0.73
48:Y3:38:GLU:OE2	48:Y3:38:GLU:N	2.14	0.73
24:RA:1638:C:H5''	24:RA:2710:C:O2'	1.89	0.72
12:XL:60:LEU:HD12	12:XL:62:SER:H	1.54	0.72
24:YA:994:C:OP1	39:YU:53:ARG:NH2	2.23	0.72
1:XA:978:A:OP2	1:XA:1362(A):C:N4	2.20	0.72
9:XI:20:ARG:HE	9:XI:21:PRO:HD2	1.54	0.71
24:YA:783:A:H2'	24:YA:784:A:H4'	1.72	0.71
1:XA:410:G:H21	1:XA:432:A:H62	1.37	0.71
24:YA:888:C:H3'	24:YA:889:C:H4'	1.72	0.71
14:QN:27:CYS:SG	14:QN:40:CYS:HB3	2.30	0.71
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.71	0.71
1:XA:1422:G:H5''	33:YO:48:PRO:HB3	1.73	0.71
44:RZ:5:LEU:H	44:RZ:59:LEU:HA	1.54	0.71
1:XA:674:G:H2'	1:XA:675:A:H8	1.55	0.71
24:YA:1817:G:OP1	26:YD:88:ARG:NH2	2.24	0.71
25:RB:80:U:H2'	25:RB:81:G:H21	1.54	0.71
14:XN:27:CYS:SG	14:XN:40:CYS:CB	2.78	0.71
14:XN:29:ARG:HD2	14:XN:40:CYS:HG	1.54	0.71
24:RA:2046:G:H5'	50:R5:19:ARG:HG3	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:YN:27:CYS:SG	14:YN:40:CYS:HB2	2.31	0.71
24:YA:517:C:OP1	50:Y5:16:ARG:NH2	2.24	0.71
11:QK:93:GLN:OE1	11:QK:96:ARG:NH2	2.24	0.71
24:RA:392:C:H5''	24:RA:409:C:H5''	1.71	0.71
1:QA:339:C:OP2	33:RO:97:ARG:NH1	2.20	0.70
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.21	0.70
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.72	0.70
24:RA:2688:U:OP1	24:RA:2713:A:N6	2.23	0.70
24:RA:994:C:OP1	39:RU:53:ARG:NH2	2.24	0.70
44:RZ:52:SER:O	44:RZ:54:HIS:N	2.20	0.70
25:RB:33:G:H5'	29:RG:2:PRO:HG3	1.73	0.70
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.25	0.70
1:XA:689:C:H3'	1:XA:690:G:H21	1.56	0.70
46:R1:76:ARG:HH11	46:R1:94:LEU:HD23	1.57	0.70
24:YA:1026:U:H4'	24:YA:1027:A:OP1	1.92	0.70
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.24	0.70
24:YA:1670:C:C5'	24:YA:1671:U:OP2	2.40	0.70
1:XA:1318:A:H4'	19:XS:11:VAL:HG21	1.74	0.69
24:YA:67:U:H3	24:YA:74:A:H2	1.39	0.69
24:YA:288:C:H2'	24:YA:289:A:H8	1.57	0.69
24:YA:620:G:H4'	24:YA:621:A:H5''	1.73	0.69
24:RA:140:A:H8	24:RA:1408:C:HO2'	1.41	0.69
24:RA:630:G:N2	24:RA:633:A:OP2	2.25	0.69
25:RB:30:C:H1'	25:RB:57:A:H61	1.56	0.69
1:QA:838:G:H1	1:QA:848:C:H42	1.38	0.69
24:RA:994:C:OP2	39:RU:54:LYS:NZ	2.25	0.69
38:YT:125:ARG:HE	38:YT:129:ARG:HH12	1.39	0.69
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.74	0.69
14:QN:27:CYS:SG	14:QN:40:CYS:CB	2.80	0.69
24:YA:512:G:OP1	24:YA:1234:U:O2'	2.10	0.69
1:QA:782:A:H62	1:QA:800:G:H21	1.40	0.69
24:RA:2115:G:N1	24:RA:2164:C:OP2	2.26	0.69
1:XA:618:C:H5'	1:XA:619:U:H5''	1.73	0.69
24:YA:571:A:H5'	24:YA:2030:A:H62	1.57	0.69
24:YA:1670:C:H5''	24:YA:1671:U:OP2	1.93	0.69
1:XA:1227:A:OP1	19:XS:80:TYR:OH	2.10	0.69
24:YA:1012:U:O2'	24:YA:1013:C:OP2	2.11	0.69
24:YA:1509:C:H3'	24:YA:1510:A:H5''	1.74	0.69
1:XA:1348:U:H4'	9:XI:120:ARG:HD2	1.74	0.69
9:XI:9:ARG:HG3	9:XI:104:ARG:HH21	1.56	0.69
1:XA:677:U:H3	1:XA:713:G:H22	1.41	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:689:C:H3'	1:QA:690:G:H21	1.57	0.69
1:QA:1400:C:O4'	23:QX:21:G:C6	2.46	0.69
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.25	0.69
1:XA:1157:A:N7	1:XA:1178:G:N2	2.40	0.69
3:XC:6:HIS:CE1	3:XC:8:ILE:HB	2.28	0.69
24:YA:996:A:OP2	39:YU:92:ARG:NH2	2.27	0.68
1:QA:1504:G:OP1	1:QA:1507:A:O2'	2.10	0.68
24:RA:993:G:OP1	39:RU:50:ARG:NH2	2.25	0.68
24:YA:1012:U:C2'	24:YA:1013:C:OP2	2.41	0.68
24:YA:1030:G:OP2	35:YQ:128:LYS:NZ	2.26	0.68
24:YA:2154:G:H2'	24:YA:2155:G:H8	1.57	0.68
54:Y9:13:LYS:HD2	54:Y9:28:GLU:H	1.57	0.68
24:RA:1433:U:H3	24:RA:1560:G:H1	1.41	0.68
28:RF:158:THR:O	28:RF:164:ARG:NH1	2.26	0.68
24:RA:309:G:OP2	24:RA:309:G:C8	2.46	0.68
24:RA:141:A:H8	24:RA:1595:G:H21	1.42	0.68
29:RG:29:TRP:O	29:RG:33:ARG:NH1	2.27	0.68
24:YA:1359:A:N7	24:YA:1372:U:O4	2.26	0.68
24:YA:1728:G:N1	24:YA:1730:U:OP2	2.26	0.68
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.27	0.68
1:XA:264:U:O2'	17:XQ:64:PRO:O	2.11	0.68
38:YT:5:ALA:HA	38:YT:8:LYS:HD3	1.74	0.68
1:QA:811:C:O2'	1:QA:901:A:N1	2.27	0.68
4:XD:61:LYS:NZ	4:XD:61:LYS:CD	2.55	0.68
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.41	0.67
10:QJ:3:LYS:N	10:QJ:74:ILE:O	2.27	0.67
1:XA:1266:G:N2	1:XA:1269:A:OP2	2.21	0.67
24:YA:1110:G:H4'	30:YH:3:ARG:HE	1.60	0.67
24:YA:2291:U:H3	24:YA:2341:G:H1	1.42	0.67
24:YA:2788:C:O2'	24:YA:2809:A:N3	2.26	0.67
3:XC:18:TRP:O	3:XC:21:ARG:NH2	2.27	0.67
24:RA:2711:A:H5''	24:RA:2712:U:H5''	1.75	0.67
35:RQ:65:PHE:HB2	35:RQ:105:GLU:HB3	1.75	0.67
24:YA:2296:U:OP2	37:YS:9:ARG:NH1	2.28	0.67
24:YA:2821:A:OP2	24:YA:2822:G:OP2	2.11	0.67
1:QA:45:U:H3	1:QA:396:G:H1	1.43	0.67
3:XC:85:ARG:HA	3:XC:88:ARG:HE	1.59	0.67
24:RA:2285:C:OP2	51:R6:6:ARG:NH1	2.28	0.67
1:XA:553:A:H5''	12:XL:24:VAL:HG21	1.76	0.67
1:XA:812:C:H4'	1:XA:813:U:H5'	1.75	0.67
5:XE:75:THR:OG1	5:XE:76:ILE:N	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:593:G:H4'	53:Y8:61:LEU:HD13	1.77	0.67
24:YA:1728:G:H8	24:YA:1732:A:H62	1.43	0.66
34:YP:65:ARG:HE	53:Y8:15:LYS:HB2	1.60	0.66
12:XL:114:LYS:O	12:XL:117:ARG:NH1	2.28	0.66
44:YZ:4:ARG:HB3	44:YZ:60:GLU:HG3	1.78	0.66
46:Y1:83:GLU:HG2	46:Y1:85:LEU:H	1.60	0.66
1:QA:806:C:H2'	1:QA:807:A:H8	1.61	0.66
5:QE:75:THR:OG1	5:QE:76:ILE:N	2.28	0.66
24:RA:27:G:N2	24:RA:513:A:OP2	2.29	0.66
24:RA:676:A:H8	24:RA:2069:G:H21	1.43	0.66
1:QA:1222:G:OP1	19:QS:78:ARG:NH1	2.27	0.66
49:Y4:46:GLN:HG3	49:Y4:48:ARG:HE	1.60	0.66
24:RA:309:G:N3	24:RA:329:G:O2'	2.28	0.66
1:XA:261:U:N3	1:XA:264:U:OP2	2.28	0.66
19:XS:19:VAL:HG21	19:XS:44:MET:HG2	1.78	0.66
24:YA:850:C:N4	24:YA:929:G:N2	2.43	0.66
51:R6:13:CYS:CB	51:R6:16:CYS:SG	2.82	0.66
1:QA:316:G:OP2	1:QA:351:G:O2'	2.13	0.66
5:QE:35:GLY:HA3	5:QE:112:LEU:HB3	1.76	0.66
14:QN:24:CYS:CB	14:QN:27:CYS:SG	2.79	0.66
24:RA:2747:G:H21	24:RA:2757:A:H62	1.42	0.66
33:RO:104:ARG:HH11	33:RO:121:VAL:HG22	1.61	0.66
51:Y6:13:CYS:HB3	51:Y6:16:CYS:SG	2.35	0.66
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.24	0.66
22:QV:19:G:O2'	22:QV:58:G:N2	2.29	0.66
24:RA:2638:G:OP1	27:RE:82:ARG:NH2	2.29	0.66
34:YP:58:THR:O	34:YP:61:ARG:NH2	2.28	0.66
1:QA:553:A:H5''	12:QL:24:VAL:HG11	1.78	0.66
1:QA:677:U:H3	1:QA:713:G:H22	1.40	0.66
1:XA:946:A:O2'	1:XA:1333:A:N3	2.29	0.66
24:YA:141:A:H8	24:YA:1595:G:H21	1.42	0.65
1:QA:1023:G:H3'	1:QA:1024:G:H5''	1.79	0.65
24:YA:630:G:OP1	53:Y8:46:ARG:NH1	2.30	0.65
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.62	0.65
1:XA:579:G:H5'	1:XA:728:A:H1'	1.76	0.65
1:XA:662:G:O2'	1:XA:836:G:OP1	2.15	0.65
2:QB:54:THR:HG22	2:QB:199:TYR:HB3	1.77	0.65
14:XN:24:CYS:CB	14:XN:27:CYS:SG	2.85	0.65
51:Y6:10:LEU:HD23	51:Y6:19:ARG:HG2	1.78	0.65
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.44	0.65
3:QC:173:VAL:HG22	3:QC:203:PHE:HB2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:581:G:N1	1:XA:759:A:OP2	2.28	0.65
14:YN:24:CYS:SG	14:YN:40:CYS:N	2.70	0.65
37:YS:20:ARG:NH2	45:Y0:51:VAL:O	2.26	0.65
1:QA:439:A:OP2	1:QA:493:G:N1	2.29	0.65
24:RA:1607:C:N4	24:RA:1622:G:OP2	2.29	0.65
2:XB:54:THR:HG22	2:XB:199:TYR:HB3	1.78	0.65
21:XU:12:LYS:HB3	21:XU:22:ARG:HD3	1.79	0.65
24:RA:26:G:H1'	24:RA:515:A:H61	1.62	0.65
24:RA:2816:C:O2	24:RA:2883:A:O2'	2.14	0.65
1:XA:324:G:H8	1:XA:324:G:O5'	1.80	0.65
1:XA:745:C:H2'	1:XA:746:A:H8	1.61	0.65
8:XH:111:ILE:HG23	8:XH:134:ILE:HB	1.78	0.65
53:Y8:29:LYS:O	53:Y8:31:HIS:N	2.30	0.65
24:RA:987:G:O2'	24:RA:1000:A:N3	2.30	0.65
24:YA:527:C:N4	24:YA:2779:U:OP2	2.31	0.64
24:YA:2010:G:H5''	41:YW:42:ARG:HB2	1.79	0.64
24:YA:2729:G:H1'	27:YE:187:ALA:HB2	1.79	0.64
24:RA:1365:A:O2'	46:R1:11:ARG:NH2	2.30	0.64
1:XA:235:C:H2'	1:XA:236:G:H8	1.63	0.64
24:YA:807:U:O2'	24:YA:2060:A:N1	2.29	0.64
4:XD:9:CYS:SG	4:XD:25:ARG:NH1	2.68	0.64
1:QA:1301:U:O3'	13:QM:21:TYR:OH	2.14	0.64
5:QE:79:GLU:HB3	5:QE:92:LYS:HD3	1.79	0.64
24:RA:2296:U:OP2	37:RS:9:ARG:NH1	2.30	0.64
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG3	1.79	0.64
11:QK:18:ARG:HG2	11:QK:81:ASP:HB2	1.80	0.64
22:QV:4:U:HO2'	22:QV:5:G:H8	1.43	0.64
24:RA:768:G:O2'	24:RA:1379:A:N6	2.30	0.64
24:RA:2882:A:OP1	36:RR:96:ARG:NH1	2.31	0.64
26:RD:124:PRO:HB2	26:RD:126:GLN:HE22	1.63	0.64
43:RY:14:LEU:HB2	43:RY:75:ILE:HD11	1.80	0.64
1:XA:578:C:O2'	1:XA:728:A:N3	2.29	0.64
24:YA:993:G:OP1	39:YU:50:ARG:NH2	2.31	0.64
29:YG:67:LYS:HE3	49:Y4:7:PRO:HD3	1.78	0.64
40:YV:61:VAL:HG12	40:YV:63:GLY:H	1.63	0.64
2:XB:219:VAL:HA	2:XB:222:ILE:HD12	1.80	0.64
1:QA:343:U:O2	1:QA:346:G:N2	2.28	0.64
9:QI:112:LYS:NZ	9:QI:113:LYS:O	2.30	0.64
30:YH:151:ILE:O	30:YH:153:LYS:N	2.30	0.64
1:QA:1116:C:H2'	1:QA:1117:G:H8	1.63	0.64
3:XC:11:ARG:NH2	3:XC:177:THR:O	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:100:ARG:NH2	4:XD:136:PRO:O	2.31	0.64
24:YA:1316:U:H2'	24:YA:1317:A:H8	1.62	0.64
25:YB:30:C:H1'	25:YB:57:A:H61	1.63	0.64
1:QA:1373:G:H5'	7:QG:36:LYS:HG2	1.80	0.64
13:QM:91:ARG:HH21	13:QM:96:LEU:HB3	1.63	0.64
24:RA:308:G:O2'	24:RA:329:G:N2	2.31	0.64
24:RA:998:C:OP2	39:RU:58:ARG:NH1	2.30	0.64
1:XA:521:G:HO2'	1:XA:536:C:HO2'	1.45	0.64
2:XB:118:LEU:HD21	2:XB:142:LEU:HA	1.80	0.64
14:XN:24:CYS:SG	14:XN:33:VAL:HG22	2.38	0.64
24:YA:589:C:H2'	24:YA:590:A:H8	1.62	0.64
24:YA:2328:A:H2'	24:YA:2329:G:C8	2.33	0.64
1:QA:745:C:OP1	1:QA:851:G:O2'	2.16	0.63
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.31	0.63
20:XT:58:LYS:O	20:XT:61:SER:OG	2.15	0.63
1:QA:514:C:H2'	1:QA:515:G:H8	1.63	0.63
24:RA:67:U:O5'	24:RA:67:U:H6	1.80	0.63
1:XA:380:G:N2	1:XA:383:A:OP2	2.25	0.63
1:XA:544:G:OP1	4:XD:59:ARG:NH2	2.30	0.63
51:Y6:13:CYS:CB	51:Y6:16:CYS:SG	2.79	0.63
1:XA:1253:G:H4'	10:XJ:46:ARG:HH12	1.64	0.63
20:XT:14:LYS:HA	20:XT:17:ARG:HD3	1.80	0.63
24:YA:2646:C:OP2	24:YA:2732:G:O2'	2.10	0.63
10:QJ:19:SER:HA	10:QJ:22:LYS:HD2	1.79	0.63
24:RA:587:C:OP2	34:RP:21:ARG:NH1	2.31	0.63
24:RA:776:G:N1	24:RA:2072:G:OP1	2.30	0.63
1:XA:953:G:N7	13:XM:104:ARG:NH2	2.46	0.63
24:YA:270(I):G:H1	24:YA:270(Q):C:H42	1.46	0.63
24:YA:694:U:H3	24:YA:768:G:H1	1.44	0.63
24:YA:2068:U:H3	24:YA:2430:A:H2	1.43	0.63
27:YE:17:ASP:O	27:YE:19:ARG:N	2.32	0.63
26:RD:13:ARG:NH1	26:RD:16:MET:SD	2.71	0.63
34:RP:58:THR:O	34:RP:61:ARG:NH2	2.31	0.63
24:YA:2680:C:H5'	27:YE:189:PRO:HA	1.80	0.63
24:RA:1509:C:H3'	24:RA:1510:A:H5''	1.79	0.63
1:XA:358:U:H2'	1:XA:359:U:C6	2.34	0.63
24:RA:1152:C:H2'	24:RA:1153:C:H6	1.63	0.63
1:XA:1224:G:O2'	1:XA:1322:C:OP2	2.17	0.63
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.32	0.63
24:YA:277:C:C5'	24:YA:278:A:H5'	2.29	0.63
1:QA:1305:G:N2	1:QA:1332:A:OP2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:41:PRO:HB2	10:QJ:43:ARG:HH22	1.63	0.62
13:QM:25:ILE:HD11	13:QM:66:LEU:HD11	1.79	0.62
24:YA:919:G:N2	24:YA:2269:A:OP2	2.32	0.62
24:RA:883:G:H1	24:RA:893:C:H42	1.47	0.62
24:RA:2228:G:OP1	26:RD:261:LYS:NZ	2.25	0.62
27:RE:17:ASP:O	27:RE:19:ARG:N	2.30	0.62
13:XM:57:ARG:HH22	49:Y4:34:GLU:HB2	1.64	0.62
24:YA:1264:G:OP1	50:Y5:19:ARG:NH2	2.19	0.62
1:XA:714:G:H2'	1:XA:715:A:C8	2.34	0.62
1:XA:715:A:H2'	1:XA:716:A:C8	2.34	0.62
24:YA:270:A:OP2	24:YA:270(Y):G:N1	2.31	0.62
24:YA:2287:A:H62	24:YA:2344:U:H3	1.46	0.62
39:RU:92:ARG:HD2	40:RV:11:GLN:HB2	1.80	0.62
1:XA:1305:G:N2	1:XA:1332:A:OP2	2.32	0.62
1:QA:1224:G:O2'	1:QA:1322:C:OP2	2.18	0.62
8:QH:32:LYS:HA	8:QH:35:ILE:HD12	1.81	0.62
24:RA:1882:C:H3'	24:RA:1883:G:H8	1.65	0.62
24:YA:1980:G:O2'	24:YA:1982:C:OP2	2.15	0.62
10:QJ:40:LEU:HD11	10:QJ:71:LEU:HG	1.80	0.62
24:RA:1083:U:H2'	24:RA:1085:A:H5''	1.81	0.62
35:RQ:81:VAL:O	35:RQ:82:ARG:NE	2.28	0.62
1:XA:1141:C:H2'	1:XA:1142:G:H8	1.64	0.62
27:RE:176:ILE:HB	27:RE:181:LEU:HB2	1.81	0.62
28:RF:117:ARG:NH2	28:RF:189:THR:O	2.33	0.62
4:XD:25:ARG:NH1	56:XD:301:SF4:S2	2.73	0.62
1:QA:581:G:OP1	15:QO:65:ARG:NH1	2.30	0.62
5:QE:43:LEU:HD21	5:QE:109:ILE:HD12	1.80	0.62
24:RA:270(T):G:H5''	46:R1:97:LEU:HD22	1.81	0.62
24:RA:1859:A:N6	24:RA:1883:G:O2'	2.33	0.62
26:RD:143:HIS:ND1	26:RD:194:GLY:O	2.27	0.62
1:XA:1073:U:O2'	2:XB:104:ASN:OD1	2.17	0.62
24:YA:265:A:N6	24:YA:427:U:O2'	2.32	0.62
24:YA:1127:A:N7	24:YA:2488:A:O2'	2.31	0.62
1:QA:714:G:H2'	1:QA:715:A:C8	2.34	0.62
24:RA:517:C:OP1	50:R5:16:ARG:NH2	2.32	0.62
24:RA:2118:U:O2	24:RA:2148:G:O2'	2.17	0.62
1:XA:1522:U:H2'	1:XA:1523:G:H8	1.65	0.62
1:QA:1343:G:H4'	9:QI:122:ALA:HB3	1.81	0.62
24:RA:1652:A:OP1	36:RR:8:ARG:NH1	2.33	0.62
30:RH:153:LYS:HB2	30:RH:162:ILE:HG12	1.80	0.62
24:YA:577:G:O2'	24:YA:1254:A:OP1	2.18	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:579:G:H5'	1:QA:728:A:H1'	1.81	0.61
15:QO:25:THR:HB	15:QO:70:LEU:HD21	1.82	0.61
47:R2:54:LYS:HA	47:R2:57:ILE:HD12	1.82	0.61
1:XA:673:G:H2'	1:XA:674:G:C8	2.35	0.61
9:XI:111:ARG:NH1	9:XI:112:LYS:O	2.33	0.61
24:RA:2199:A:OP1	46:R1:50:ARG:NH2	2.32	0.61
1:XA:1251:A:N3	1:XA:1369:C:O2'	2.32	0.61
2:XB:92:TYR:HE2	2:XB:94:ASN:HD22	1.47	0.61
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.66	0.61
1:XA:191(G):G:O2'	20:XT:101:GLY:O	2.18	0.61
1:QA:543:C:OP2	4:QD:10:ARG:NH1	2.33	0.61
10:QJ:30:SER:O	10:QJ:78:ASN:ND2	2.34	0.61
24:RA:530:G:N1	24:RA:2022:U:OP1	2.33	0.61
24:RA:1969:A:O2'	24:RA:1972:A:N3	2.30	0.61
24:YA:372:G:N2	24:YA:401:A:OP2	2.33	0.61
24:YA:1530:G:O6	24:YA:1542:G:N2	2.32	0.61
25:YB:22:U:H3	25:YB:61:G:H1	1.48	0.61
25:YB:80:U:H2'	25:YB:81:G:H21	1.64	0.61
34:YP:37:GLY:N	34:YP:40:SER:OG	2.33	0.61
44:YZ:53:ILE:HG22	44:YZ:71:VAL:HG13	1.83	0.61
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.66	0.61
24:RA:1521:G:H8	24:RA:1521:G:H5''	1.66	0.61
24:RA:2365:G:O6	53:R8:43:GLN:NE2	2.33	0.61
24:YA:392:C:H5''	24:YA:409:C:H5''	1.82	0.61
24:YA:1026:U:C4'	24:YA:1027:A:OP1	2.48	0.61
24:YA:2224:G:OP1	26:YD:268:ARG:NH1	2.33	0.61
4:QD:25:ARG:NH1	56:QD:301:SF4:S3	2.74	0.61
27:RE:201:THR:HG22	27:RE:203:LYS:H	1.65	0.61
1:XA:363:A:OP1	12:XL:34:ARG:N	2.29	0.61
24:YA:1019:U:H3	24:YA:1142(A):A:H62	1.49	0.61
24:RA:546:C:H3'	24:RA:547:A:H8	1.66	0.61
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.36	0.61
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.16	0.61
22:XV:59:A:O2'	22:XV:61:U:OP2	2.13	0.61
24:RA:1058:G:N2	24:RA:1080:C:O2	2.34	0.61
24:RA:1138:G:O2'	32:RN:102:ALA:O	2.19	0.61
49:R4:58:ARG:HA	49:R4:61:ARG:HH21	1.66	0.61
1:XA:192:U:O2'	20:XT:60:GLU:OE2	2.17	0.61
12:XL:89:ARG:NH2	12:XL:93:LEU:O	2.33	0.61
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.34	0.61
35:YQ:65:PHE:HB2	35:YQ:105:GLU:HB3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1636:C:H2'	24:RA:1637:A:C8	2.36	0.61
24:RA:2701:C:H3'	24:RA:2702:U:H5''	1.81	0.61
1:QA:266:G:O2'	1:QA:267:C:OP2	2.16	0.61
1:QA:578:C:O2'	1:QA:728:A:N3	2.29	0.61
2:QB:55:PHE:HA	2:QB:58:ILE:HG12	1.83	0.61
24:RA:1011:G:OP1	39:RU:66:ASN:ND2	2.33	0.61
27:RE:78:LEU:HG	27:RE:79:ARG:HD2	1.81	0.61
33:RO:80:ASP:OD2	38:RT:64:ARG:NH2	2.34	0.61
1:XA:152:A:H62	1:XA:169:C:N4	1.99	0.61
7:XG:16:LEU:HD11	9:XI:45:ALA:HB2	1.82	0.61
24:YA:574:C:N3	27:YE:145:LYS:NZ	2.45	0.61
26:YD:146:GLU:HB2	26:YD:189:CYS:HB3	1.83	0.61
1:QA:1073:U:O2	2:QB:104:ASN:ND2	2.33	0.60
27:RE:2:LYS:HD3	27:RE:95:ILE:HG22	1.82	0.60
54:R9:25:VAL:HB	54:R9:34:GLN:HB2	1.83	0.60
3:XC:17:ASP:O	3:XC:54:ARG:NH2	2.34	0.60
6:XF:23:LYS:HA	6:XF:26:ILE:HD12	1.83	0.60
22:XV:4:U:HO2'	22:XV:5:G:H8	1.46	0.60
13:QM:22:ILE:HD12	13:QM:22:ILE:N	2.15	0.60
26:RD:27:THR:HG21	26:RD:81:ALA:HB1	1.83	0.60
34:RP:106:LEU:HD21	34:RP:112:LEU:HD13	1.83	0.60
1:XA:1441:G:N2	1:XA:1460:A:H62	1.98	0.60
24:YA:380:U:H2'	24:YA:381:G:H8	1.66	0.60
39:YU:90:VAL:HG22	40:YV:39:LEU:HD23	1.81	0.60
1:XA:272:C:H2'	1:XA:273:A:H8	1.65	0.60
1:XA:736:C:H2'	1:XA:737:A:H8	1.65	0.60
24:YA:1138:G:O2'	32:YN:102:ALA:O	2.19	0.60
24:RA:372:G:N2	24:RA:401:A:OP2	2.34	0.60
24:RA:1288:U:O3'	24:RA:1647:G:N2	2.34	0.60
37:RS:30:ARG:HG2	37:RS:97:ARG:HH21	1.66	0.60
1:XA:736:C:H2'	1:XA:737:A:C8	2.36	0.60
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.31	0.60
19:QS:41:VAL:HG13	19:QS:43:GLU:H	1.64	0.60
24:RA:856:C:O2'	24:RA:857:C:OP1	2.19	0.60
24:RA:2030:A:H4'	24:RA:2031:A:H8	1.67	0.60
24:YA:857:C:OP2	45:Y0:77:ARG:NH2	2.34	0.60
24:YA:1418:G:N1	24:YA:1579:A:OP2	2.29	0.60
30:YH:149:ARG:NH2	30:YH:167:GLU:OE2	2.35	0.60
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.36	0.60
8:QH:112:LEU:HA	8:QH:134:ILE:HG12	1.83	0.60
24:RA:2308:G:H22	24:RA:2311:A:H2	1.50	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:971:G:N2	1:XA:1363:A:OP2	2.34	0.60
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.67	0.60
24:YA:117:G:OP2	24:YA:119:A:O2'	2.18	0.60
29:YG:98:ARG:NH1	49:Y4:1:MET:SD	2.74	0.60
1:QA:191(G):G:O2'	20:QT:101:GLY:O	2.19	0.60
1:QA:272:C:H2'	1:QA:273:A:H8	1.65	0.60
14:QN:45:ARG:O	14:QN:49:HIS:ND1	2.32	0.60
24:RA:517:C:O2'	41:RW:18:ARG:NH2	2.31	0.60
24:RA:527:C:C4	24:RA:2779:U:H5''	2.36	0.60
24:RA:583:G:OP2	39:RU:10:ARG:NH1	2.33	0.60
50:R5:46:CYS:CB	50:R5:49:CYS:SG	2.89	0.60
1:XA:1347:G:N2	1:XA:1374:A:OP2	2.35	0.60
1:XA:1500:A:H5''	1:XA:1508:G:H5''	1.84	0.60
3:XC:56:ASP:HB3	3:XC:67:THR:HB	1.83	0.60
24:YA:26:G:H1'	24:YA:515:A:H61	1.66	0.60
26:YD:147:LEU:HD12	26:YD:155:LEU:HD11	1.82	0.60
1:QA:123:C:OP1	1:QA:311:C:O2'	2.20	0.60
24:RA:665:C:H2'	24:RA:666:G:H8	1.67	0.60
30:RH:85:LYS:HD3	30:RH:86:GLU:H	1.67	0.60
14:XN:39:LEU:HB2	14:XN:44:LEU:HD23	1.82	0.60
1:QA:1500:A:H5''	1:QA:1508:G:H5''	1.83	0.60
24:RA:1225:C:O2	40:RV:85:LYS:NZ	2.32	0.60
24:RA:2068:U:H3	24:RA:2430:A:H2	1.49	0.60
24:YA:1365:A:O2'	46:Y1:11:ARG:NH2	2.30	0.60
29:YG:29:TRP:O	29:YG:33:ARG:NH1	2.34	0.60
1:QA:673:G:H2'	1:QA:674:G:C8	2.36	0.60
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.35	0.60
24:RA:1061:U:OP2	24:RA:1070:A:O2'	2.15	0.60
4:XD:12:CYS:CB	56:XD:301:SF4:S3	2.90	0.60
24:YA:770:G:OP1	52:Y7:8:ASN:ND2	2.32	0.60
1:QA:1312:G:H5'	19:QS:5:LEU:HD11	1.84	0.59
3:QC:182:ILE:HD11	3:QC:201:TYR:HB3	1.83	0.59
24:RA:782:A:O2'	26:RD:225:ALA:O	2.19	0.59
24:RA:860:U:H2'	24:RA:861:A:H8	1.67	0.59
38:RT:28:VAL:HG23	38:RT:88:ILE:HA	1.82	0.59
41:RW:69:LEU:HD23	41:RW:107:LEU:HD13	1.84	0.59
1:XA:28:G:O2'	1:XA:296:U:OP1	2.19	0.59
24:YA:1309:G:HO2'	24:YA:1611:C:HO2'	1.49	0.59
24:YA:1657:C:H4'	27:YE:133:LYS:HB3	1.84	0.59
24:YA:2306:C:H3'	24:YA:2307:G:H5''	1.83	0.59
18:QR:58:LEU:HD23	18:QR:62:GLU:HB3	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1030:G:OP2	35:RQ:128:LYS:NZ	2.35	0.59
24:RA:1967:C:H2'	24:RA:1968:G:O4'	2.03	0.59
1:XA:643:C:H2'	1:XA:644:G:H8	1.66	0.59
24:YA:1967:C:H2'	24:YA:1968:G:O4'	2.02	0.59
30:YH:24:VAL:HG23	30:YH:35:VAL:HB	1.83	0.59
48:Y3:38:GLU:H	48:Y3:38:GLU:CD	2.03	0.59
30:RH:18:GLU:HB2	30:RH:25:LYS:HB3	1.84	0.59
45:R0:27:GLU:HG3	45:R0:68:GLU:HA	1.85	0.59
4:XD:12:CYS:HB2	56:XD:301:SF4:S3	2.41	0.59
27:YE:9:VAL:HB	27:YE:25:VAL:HG23	1.84	0.59
37:YS:10:ARG:NH1	37:YS:91:PRO:O	2.35	0.59
1:QA:1304:G:OP1	21:QU:2:GLY:N	2.35	0.59
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.83	0.59
24:RA:2328:A:H2'	24:RA:2329:G:C8	2.37	0.59
31:RI:123:LEU:HD12	31:RI:142:VAL:HG23	1.83	0.59
1:XA:119:A:C8	1:XA:288:A:N1	2.70	0.59
1:XA:713:G:H2'	1:XA:714:G:C8	2.36	0.59
1:XA:842:C:O2'	1:XA:848:C:N4	2.35	0.59
42:YX:27:THR:HB	42:YX:80:ILE:HG12	1.83	0.59
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.67	0.59
1:QA:790:A:OP1	22:QV:39:A:O2'	2.19	0.59
1:QA:1210:C:O2'	1:QA:1213:A:O2'	2.20	0.59
24:RA:662:G:OP1	34:RP:15:ARG:NH1	2.34	0.59
2:XB:132:LYS:HA	2:XB:135:GLN:HB2	1.84	0.59
16:XP:6:LEU:HD12	16:XP:17:TYR:HB3	1.85	0.59
6:QF:100:ASN:ND2	18:QR:23:LYS:O	2.27	0.59
24:RA:956:G:OP2	35:RQ:14:ARG:NH2	2.35	0.59
24:RA:1363:C:O2'	24:RA:1809:A:N3	2.33	0.59
24:RA:2576:G:O2'	24:RA:2579:C:OP2	2.20	0.59
24:RA:2626:C:H2'	24:RA:2627:G:H8	1.68	0.59
24:YA:526:A:OP1	24:YA:527:C:OP1	2.20	0.59
24:YA:2471:C:H3'	24:YA:2472:G:H8	1.68	0.59
7:QG:117:ALA:HA	7:QG:120:ILE:HD12	1.85	0.59
24:RA:764:A:H5'	26:RD:210:GLY:HA2	1.84	0.59
24:RA:2893:G:H5''	24:RA:2894:G:H5'	1.84	0.59
26:RD:155:LEU:HD23	26:RD:177:LEU:HD11	1.84	0.59
35:RQ:41:TRP:HB3	35:RQ:94:VAL:HG11	1.85	0.59
1:XA:972:C:H4'	10:XJ:57:LYS:HB2	1.84	0.59
24:YA:259:G:HO2'	24:YA:621:A:HO2'	1.46	0.59
24:YA:2123:G:H2'	24:YA:2124:G:H8	1.68	0.59
30:RH:45:VAL:HA	30:RH:50:VAL:HG12	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:R3:8:LEU:HG	48:R3:28:LEU:HD13	1.85	0.59
24:YA:1405:U:H2'	24:YA:1406:U:H6	1.68	0.59
2:QB:32:ILE:HD11	2:QB:40:HIS:HB3	1.85	0.59
24:RA:2635:C:OP1	27:RE:78:LEU:HD13	2.03	0.59
27:YE:2:LYS:HE3	27:YE:95:ILE:HG22	1.84	0.59
37:YS:110:LEU:HD12	37:YS:112:PHE:H	1.68	0.59
1:QA:689:C:OP1	11:QK:44:SER:OG	2.15	0.59
1:QA:827:U:O2	1:QA:874:G:N2	2.36	0.59
1:QA:1321:C:H5''	1:QA:1322:C:H5''	1.85	0.59
6:QF:47:ARG:HH22	6:QF:56:PRO:HB2	1.68	0.59
20:QT:53:LEU:HD23	20:QT:100:ILE:HG23	1.84	0.59
24:RA:577:G:O2'	24:RA:1254:A:OP1	2.21	0.59
24:RA:1754:C:OP1	38:RT:96:ARG:NH1	2.36	0.59
31:RI:14:ASP:O	31:RI:16:GLY:N	2.36	0.59
1:XA:1209:C:O2'	1:XA:1214:C:N4	2.35	0.59
14:YN:27:CYS:SG	14:YN:40:CYS:HB3	2.43	0.59
16:XP:6:LEU:HB3	16:XP:17:TYR:HD1	1.67	0.59
24:YA:840:C:H2'	24:YA:841:A:H8	1.68	0.59
24:YA:1012:U:O2'	24:YA:1013:C:P	2.61	0.59
25:YB:44:G:O2'	25:YB:47:C:N4	2.34	0.59
1:QA:1422:G:H5''	33:RO:48:PRO:HB3	1.84	0.58
4:QD:15:GLU:HG2	4:QD:63:LYS:HD3	1.85	0.58
7:QG:67:GLU:HA	7:QG:70:LYS:HD3	1.84	0.58
13:QM:25:ILE:CD1	13:QM:66:LEU:HD11	2.33	0.58
1:XA:514:C:H2'	1:XA:515:G:H8	1.68	0.58
1:XA:1095:U:OP2	1:XA:1108:G:N1	2.36	0.58
24:YA:987:G:O2'	24:YA:1000:A:N3	2.34	0.58
33:YO:107:ARG:NH1	38:YT:36:GLU:OE2	2.36	0.58
24:RA:1212:G:N2	24:RA:1236:G:O2'	2.33	0.58
24:RA:2323:G:H1	24:RA:2332:U:H3	1.50	0.58
1:XA:486:U:H2'	1:XA:487:A:H8	1.67	0.58
24:YA:483:A:O2'	43:YY:49:VAL:O	2.16	0.58
1:QA:1085:U:OP1	1:QA:1094:G:N2	2.36	0.58
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.68	0.58
24:RA:2119:A:N6	24:RA:2170:A:N7	2.50	0.58
37:RS:10:ARG:NH1	37:RS:91:PRO:O	2.37	0.58
50:R5:36:CYS:HB3	50:R5:49:CYS:HB3	1.85	0.58
24:YA:321:G:O2'	24:YA:340:A:N3	2.36	0.58
24:YA:2314:C:H2'	24:YA:2315:G:H8	1.68	0.58
24:YA:2718:G:O2'	24:YA:2847:U:OP1	2.20	0.58
1:QA:1266:G:N2	1:QA:1269:A:OP2	2.27	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.36	0.58
24:RA:2008:C:H2'	24:RA:2009:G:H8	1.68	0.58
34:RP:68:GLN:HG2	53:R8:12:LYS:HG2	1.85	0.58
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.17	0.58
6:XF:80:ARG:HE	6:XF:88:VAL:HB	1.69	0.58
1:XA:34:C:H2'	1:XA:35:G:H8	1.69	0.58
1:XA:243:A:H4'	1:XA:244:U:O5'	2.02	0.58
2:XB:80:ILE:HD13	2:XB:212:GLN:HB2	1.86	0.58
1:QA:1502:A:H2	1:QA:1505:G:H1	1.52	0.58
6:QF:14:LEU:HD11	6:QF:18:GLN:HB2	1.84	0.58
1:XA:954:G:H21	1:XA:1227:A:H62	1.50	0.58
1:XA:1147:C:HO2'	9:XI:5:TYR:HH	1.50	0.58
12:XL:37:CYS:HA	12:XL:58:VAL:HA	1.86	0.58
1:QA:189:U:O2	17:QQ:63:ARG:NH2	2.36	0.58
6:QF:23:LYS:HA	6:QF:26:ILE:HD12	1.85	0.58
24:RA:299:A:N3	24:RA:319:C:O2'	2.35	0.58
24:RA:1798:U:O2'	24:RA:1802:A:N3	2.36	0.58
44:RZ:52:SER:O	44:RZ:54:HIS:ND1	2.34	0.58
46:R1:65:SER:HG	46:R1:66:HIS:HD1	1.51	0.58
1:XA:855:G:OP2	1:XA:871:U:N3	2.37	0.58
1:QA:34:C:H2'	1:QA:35:G:H8	1.69	0.58
1:QA:1432:G:OP1	38:RT:108:ARG:N	2.37	0.58
24:RA:2328:A:H2'	24:RA:2329:G:H8	1.68	0.58
24:YA:1062:G:N2	24:YA:1077:A:N1	2.51	0.58
24:YA:1818:U:OP2	26:YD:157:ARG:NE	2.36	0.58
26:YD:143:HIS:ND1	26:YD:194:GLY:O	2.31	0.58
1:QA:7:G:H5'	1:QA:298:A:O4'	2.03	0.58
1:QA:407:G:H5''	4:QD:115:ARG:HD3	1.85	0.58
24:RA:300:A:OP1	43:RY:86:ARG:NH2	2.36	0.58
24:RA:414:C:O2	24:RA:1864:U:O2'	2.22	0.58
53:R8:29:LYS:O	53:R8:31:HIS:N	2.37	0.58
1:XA:1455:G:H5''	20:XT:31:SER:HB2	1.86	0.58
14:YN:57:ARG:HH21	14:YN:58:LYS:HG2	1.69	0.58
24:YA:1902:C:OP1	26:YD:242:ARG:NH1	2.37	0.58
24:YA:2151:G:H2'	24:YA:2152:G:H8	1.69	0.58
24:YA:2213:U:O2	46:Y1:52:ARG:NH2	2.37	0.58
24:YA:2328:A:H2'	24:YA:2329:G:H8	1.69	0.58
24:YA:2642:G:H5'	32:YN:78:TYR:CD2	2.39	0.58
26:YD:148:GLU:HB2	26:YD:151:LYS:HD2	1.86	0.58
27:YE:201:THR:HG22	27:YE:203:LYS:H	1.68	0.58
7:QG:45:ASP:OD2	7:QG:115:ARG:NH2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:630:G:OP1	53:R8:46:ARG:NH1	2.37	0.58
24:RA:1272:A:OP2	24:RA:1647:G:OP1	2.21	0.58
8:XH:109:ILE:HD11	8:XH:120:THR:HB	1.85	0.58
24:YA:83:G:H1	24:YA:102:G:HO2'	1.51	0.58
24:YA:2747:G:H21	24:YA:2757:A:H62	1.52	0.58
28:YF:134:GLY:H	28:YF:162:LEU:HD12	1.69	0.58
33:YO:80:ASP:OD2	38:YT:64:ARG:NH2	2.37	0.58
50:Y5:16:ARG:NH1	50:Y5:17:ASP:OD1	2.37	0.58
1:QA:376:G:H5''	16:QP:5:ARG:HB2	1.85	0.57
24:RA:521:G:H2'	24:RA:522:G:H8	1.69	0.57
26:RD:142:VAL:HG23	26:RD:193:VAL:HA	1.86	0.57
38:RT:123:GLN:O	38:RT:125:ARG:N	2.37	0.57
47:R2:10:LEU:HD21	47:R2:14:ARG:HH21	1.69	0.57
24:YA:955:C:OP1	35:YQ:85:LYS:NZ	2.32	0.57
1:QA:816:A:OP1	1:QA:1526:G:O2'	2.21	0.57
1:QA:1080:A:H5'	5:QE:16:THR:HG21	1.85	0.57
13:QM:14:ARG:NH2	13:QM:16:ASP:OD2	2.37	0.57
24:RA:345:A:H2'	24:RA:347:A:H62	1.70	0.57
24:RA:593:G:H4'	53:R8:61:LEU:HD13	1.86	0.57
1:XA:31:G:O2'	1:XA:48:C:N4	2.36	0.57
1:XA:78:G:O2'	1:XA:79:G:OP1	2.20	0.57
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.40	0.57
24:YA:510:C:C2'	24:YA:511:U:H5'	2.34	0.57
24:YA:1109:C:O2'	24:YA:1110:G:OP1	2.21	0.57
24:YA:2705:A:O2'	24:YA:2852:G:OP1	2.16	0.57
27:YE:16:ARG:NH2	27:YE:171:GLU:OE2	2.37	0.57
50:Y5:36:CYS:HB3	50:Y5:49:CYS:HB3	1.85	0.57
50:Y5:41:PRO:O	50:Y5:44:THR:OG1	2.21	0.57
1:QA:738:C:OP1	6:QF:2:ARG:NH1	2.37	0.57
24:RA:65:C:H1'	24:RA:456:C:H42	1.68	0.57
29:RG:114:ILE:HA	29:RG:136:ARG:HH22	1.69	0.57
32:RN:34:LEU:HD12	32:RN:107:LEU:HD11	1.86	0.57
1:XA:1264:C:H2'	1:XA:1265:G:H8	1.69	0.57
6:XF:94:GLN:OE1	18:XR:32:ARG:NH1	2.37	0.57
14:YN:27:CYS:HB3	14:YN:43:CYS:SG	2.43	0.57
11:QK:86:GLY:O	11:QK:91:ARG:NH1	2.38	0.57
24:RA:321:G:O2'	24:RA:340:A:N3	2.36	0.57
24:RA:1600:C:H2'	24:RA:1601:G:H8	1.68	0.57
38:RT:132:LYS:O	38:RT:136:GLN:NE2	2.37	0.57
48:R3:15:TYR:O	48:R3:20:LYS:NZ	2.38	0.57
1:XA:1224:G:H21	13:XM:102:ARG:HH22	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2329:G:H2'	24:YA:2330:G:H8	1.68	0.57
24:RA:1059:G:O6	24:RA:1079:C:N4	2.37	0.57
41:RW:24:ILE:HA	41:RW:27:LYS:HD2	1.85	0.57
2:XB:55:PHE:HA	2:XB:58:ILE:HG12	1.87	0.57
24:YA:193:U:N3	24:YA:203:C:O2	2.38	0.57
48:Y3:15:TYR:O	48:Y3:20:LYS:NZ	2.37	0.57
1:QA:235:C:H2'	1:QA:236:G:H8	1.70	0.57
24:RA:958:U:OP2	35:RQ:14:ARG:NH1	2.37	0.57
24:RA:1043:C:H42	24:RA:1112:G:H1	1.51	0.57
24:YA:604:G:OP2	34:YP:90:ARG:NH1	2.37	0.57
24:YA:662:G:OP1	34:YP:15:ARG:NH1	2.38	0.57
24:YA:814:C:H41	34:YP:25:SER:HA	1.70	0.57
24:YA:2140:C:H2'	24:YA:2141:G:H8	1.67	0.57
24:YA:2626:C:H2'	24:YA:2627:G:H8	1.70	0.57
1:QA:684:A:O2'	11:QK:39:PRO:O	2.20	0.57
3:QC:14:ILE:HG12	3:QC:15:THR:HG23	1.86	0.57
24:RA:627:A:H4'	24:RA:628:G:H5'	1.86	0.57
24:RA:834:C:H2'	24:RA:835:A:H8	1.70	0.57
24:RA:2047:U:H2'	24:RA:2048:G:H8	1.70	0.57
24:RA:2547:U:O2	33:RO:23:ARG:NH2	2.38	0.57
1:XA:565:U:H5''	1:XA:566:G:H2'	1.87	0.57
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.68	0.57
24:YA:277:C:H5''	24:YA:278:A:H5'	1.85	0.57
24:YA:2329:G:H2'	24:YA:2330:G:C8	2.40	0.57
24:YA:2635:C:O2'	27:YE:80:GLU:OE2	2.20	0.57
24:YA:2867:G:O2'	24:YA:2868:A:H8	1.88	0.57
1:QA:770:C:H2'	1:QA:771:G:H8	1.69	0.57
1:QA:1186:G:H2'	9:QI:111:ARG:HH22	1.69	0.57
2:QB:78:GLN:O	2:QB:94:ASN:ND2	2.36	0.57
3:QC:19:GLU:HG2	3:QC:40:ARG:HH21	1.69	0.57
24:RA:1262:A:OP1	41:RW:99:ARG:NH1	2.34	0.57
44:RZ:10:ARG:NH2	44:RZ:37:VAL:O	2.37	0.57
45:R0:25:ARG:HB2	45:R0:37:LEU:HD13	1.86	0.57
1:XA:973:G:H3'	1:XA:974:A:H5''	1.85	0.57
24:YA:1833:U:O2'	24:YA:1969:A:N1	2.34	0.57
28:YF:116:ASP:OD1	28:YF:119:ARG:NH2	2.37	0.57
39:YU:92:ARG:HD2	40:YV:11:GLN:HB2	1.87	0.57
44:YZ:52:SER:O	44:YZ:54:HIS:ND1	2.38	0.57
1:QA:298:A:H8	1:QA:298:A:OP1	1.88	0.57
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.70	0.57
1:QA:1296:C:OP1	13:QM:44:ARG:NH2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1298:C:OP2	7:QG:114:ARG:NH1	2.38	0.57
1:XA:107:G:OP1	1:XA:325:A:N6	2.38	0.57
1:XA:599:C:O2'	8:XH:129:VAL:O	2.18	0.57
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.70	0.57
24:YA:775:G:H4'	24:YA:776:G:H5'	1.86	0.57
24:YA:782:A:O2'	26:YD:225:ALA:O	2.22	0.57
24:YA:1353:A:OP2	24:YA:1377:G:N1	2.30	0.57
32:YN:34:LEU:O	32:YN:49:GLY:HA3	2.04	0.57
38:YT:29:ARG:HB2	38:YT:46:GLU:HG3	1.87	0.57
1:QA:715:A:H2'	1:QA:716:A:C8	2.39	0.57
3:QC:11:ARG:NH2	3:QC:177:THR:O	2.38	0.57
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.86	0.57
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.51	0.57
24:YA:2495:G:H5''	35:YQ:81:VAL:HG12	1.87	0.57
25:YB:33:G:H5'	29:YG:2:PRO:HG3	1.87	0.57
42:YX:36:LYS:NZ	42:YX:54:VAL:O	2.34	0.57
1:QA:235:C:O2	17:QQ:4:LYS:NZ	2.33	0.56
24:RA:275:G:H3'	24:RA:276:A:H5''	1.87	0.56
26:RD:108:PRO:HA	26:RD:196:VAL:HA	1.86	0.56
1:XA:1321:C:H5''	1:XA:1322:C:H2'	1.86	0.56
2:XB:82:ARG:NH1	2:XB:92:TYR:OH	2.38	0.56
24:YA:144:C:H2'	24:YA:145:G:H8	1.70	0.56
1:QA:1053:G:H5'	1:QA:1054:C:H5'	1.85	0.56
13:QM:108:ARG:HE	13:QM:114:ARG:HD2	1.69	0.56
24:RA:815:C:OP2	40:RV:83:ARG:NH1	2.39	0.56
24:RA:2232:U:OP2	46:R1:40:ARG:NH2	2.37	0.56
25:RB:22:U:H3	25:RB:61:G:H1	1.52	0.56
25:RB:52:A:HO2'	25:RB:53:A:H8	1.53	0.56
27:RE:52:LEU:O	27:RE:74:PRO:HA	2.05	0.56
32:RN:34:LEU:HD11	32:RN:120:LEU:HD12	1.88	0.56
34:RP:47:ASP:OD2	34:RP:50:ARG:NH2	2.38	0.56
1:XA:401:C:O2'	1:XA:621:A:N3	2.37	0.56
24:YA:814:C:H1'	24:YA:1226:G:H21	1.70	0.56
24:YA:1315:C:O2'	24:YA:1392:A:N3	2.35	0.56
24:YA:2030:A:H4'	24:YA:2031:A:H8	1.69	0.56
53:Y8:33:ASN:HA	53:Y8:36:LYS:HD2	1.85	0.56
19:QS:22:LEU:HD21	19:QS:28:LYS:HA	1.87	0.56
24:RA:2848:G:O2'	24:RA:2867:G:N2	2.37	0.56
35:RQ:134:ARG:NH1	44:RZ:119:GLU:OE2	2.38	0.56
44:RZ:4:ARG:HB3	44:RZ:60:GLU:HG3	1.87	0.56
46:R1:52:ARG:NH2	46:R1:55:GLY:O	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:933:G:O6	7:XG:3:ARG:NH2	2.38	0.56
1:XA:992:U:O4	1:XA:1044:A:N7	2.39	0.56
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.37	0.56
3:XC:153:VAL:HB	3:XC:196:LEU:HD21	1.87	0.56
4:XD:61:LYS:NZ	4:XD:61:LYS:HG2	2.21	0.56
9:XI:9:ARG:H	9:XI:79:LEU:HD23	1.69	0.56
10:XJ:51:ARG:O	14:XN:45:ARG:NH1	2.38	0.56
24:YA:447:A:H4'	24:YA:449:A:N7	2.20	0.56
24:YA:467:G:N7	52:Y7:39:ARG:NH2	2.54	0.56
24:YA:1354:A:H3'	24:YA:1355:G:H8	1.71	0.56
24:YA:2023:G:H5'	24:YA:2617:C:H4'	1.87	0.56
9:QI:28:VAL:HG12	9:QI:63:ILE:HB	1.87	0.56
19:QS:3:ARG:HH22	19:QS:7:LYS:HB2	1.70	0.56
24:RA:1171:G:N7	24:RA:1174:A:N6	2.52	0.56
24:RA:2696:U:H2'	24:RA:2697:G:C8	2.41	0.56
24:YA:1592:C:H2'	24:YA:1593:G:H8	1.71	0.56
1:QA:191(F):U:H2'	1:QA:191(G):G:H8	1.70	0.56
1:QA:713:G:H2'	1:QA:714:G:C8	2.41	0.56
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	1.87	0.56
24:RA:1689:A:H62	24:RA:1698:A:H2	1.53	0.56
1:XA:501:C:H2'	1:XA:502:G:H8	1.71	0.56
7:XG:150:ALA:HB1	11:XK:57:THR:HG21	1.87	0.56
24:YA:297:C:OP1	43:YY:87:LYS:NZ	2.31	0.56
24:YA:589:C:H2'	24:YA:590:A:C8	2.41	0.56
24:YA:1062:G:H1	24:YA:1076:C:H42	1.54	0.56
24:RA:2680:C:H5'	27:RE:189:PRO:HA	1.86	0.56
1:XA:143:A:H2	1:XA:220:G:H1	1.53	0.56
1:XA:414:A:OP2	1:XA:428:G:N2	2.36	0.56
43:YY:29:GLU:HB3	43:YY:38:ILE:HD12	1.86	0.56
1:QA:1230:C:H5'	22:QV:31:C:H5''	1.88	0.56
6:QF:9:VAL:HB	6:QF:87:ARG:HB2	1.87	0.56
30:RH:40:GLU:HA	30:RH:42:ARG:HH12	1.70	0.56
1:XA:953:G:H5'	1:XA:965:A:H61	1.70	0.56
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.28	0.56
4:XD:182:LYS:HD3	4:XD:184:LYS:HE3	1.88	0.56
24:YA:581:C:H2'	24:YA:582:G:H8	1.71	0.56
24:YA:851:U:H2'	24:YA:852:G:H8	1.71	0.56
1:QA:739:C:O2'	15:QO:42:HIS:ND1	2.37	0.56
24:YA:310:A:O2'	24:YA:311:A:OP2	2.17	0.56
24:YA:1056:G:H4'	24:YA:1086:A:H8	1.70	0.56
24:YA:2701:C:H3'	24:YA:2702:U:C5'	2.32	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:44:G:H2'	22:XV:45:G:C8	2.41	0.56
1:QA:376:G:H1	1:QA:387:U:H3	1.53	0.56
1:QA:401:C:O2'	1:QA:621:A:N3	2.36	0.56
24:RA:503:A:H4'	24:RA:504:U:H5'	1.88	0.56
2:XB:87:ARG:NH1	2:XB:220:ASP:OD1	2.36	0.56
14:YN:24:CYS:HB2	14:YN:28:GLY:H	1.71	0.56
28:YF:116:ASP:OD2	34:YP:1:MET:N	2.37	0.56
24:RA:301:G:OP2	43:RY:84:ARG:NH2	2.38	0.56
24:RA:558:G:H2'	24:RA:559:G:H8	1.71	0.56
24:RA:1869:G:H5'	24:RA:1870:C:OP2	2.05	0.56
1:XA:21:G:H2'	1:XA:22:G:C8	2.41	0.56
24:YA:259:G:O2'	24:YA:621:A:O2'	2.20	0.56
24:YA:665:C:H2'	24:YA:666:G:H8	1.70	0.56
1:QA:945:G:N2	1:QA:1334:G:O2'	2.38	0.55
7:QG:29:LYS:HE2	7:QG:105:VAL:HB	1.88	0.55
23:QX:6:C:H2'	23:QX:7:A:H8	1.71	0.55
24:RA:576:U:H2'	24:RA:577:G:C8	2.41	0.55
24:RA:1226:G:OP1	40:RV:69:LYS:NZ	2.33	0.55
24:RA:1853:A:N3	24:RA:2233:U:O2'	2.35	0.55
1:XA:811:C:O2'	1:XA:901:A:N1	2.39	0.55
1:XA:1498:U:OP2	23:XX:16:C:O2'	2.20	0.55
24:YA:2336:A:H61	45:Y0:43:THR:HG21	1.70	0.55
24:YA:2636:U:H3	24:YA:2782:G:H1	1.54	0.55
35:YQ:31:ASP:OD1	35:YQ:134:ARG:NH1	2.39	0.55
38:YT:132:LYS:O	38:YT:136:GLN:NE2	2.39	0.55
1:QA:114:U:H2'	1:QA:115:G:C8	2.41	0.55
1:QA:483:C:OP2	1:QA:484:G:O2'	2.17	0.55
1:QA:1124:G:H1'	10:QJ:38:ILE:HD13	1.88	0.55
24:RA:743:G:O2'	24:RA:1659:U:OP1	2.19	0.55
24:RA:1509:C:H3'	24:RA:1510:A:C5'	2.36	0.55
27:RE:104:VAL:HG22	27:RE:198:VAL:HG12	1.87	0.55
33:RO:107:ARG:NH1	38:RT:36:GLU:OE2	2.37	0.55
44:RZ:27:VAL:HG22	44:RZ:85:HIS:HE1	1.71	0.55
1:XA:662:G:H2'	1:XA:663:A:C8	2.40	0.55
8:XH:33:GLU:OE1	8:XH:50:ARG:NH1	2.38	0.55
1:QA:501:C:H2'	1:QA:502:G:H8	1.70	0.55
1:QA:958:A:N3	1:QA:985:C:O2'	2.33	0.55
1:QA:1071:C:H2'	1:QA:1072:G:H8	1.71	0.55
34:RP:52:GLU:OE2	53:R8:52:LYS:NZ	2.39	0.55
24:YA:24:G:O2'	41:YW:78:GLU:O	2.25	0.55
24:YA:251:A:OP1	53:Y8:7:HIS:NE2	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YD:155:LEU:HD23	26:YD:177:LEU:HD11	1.87	0.55
1:QA:243:A:H4'	1:QA:244:U:O5'	2.06	0.55
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.40	0.55
24:RA:518:G:O5'	41:RW:18:ARG:NH1	2.39	0.55
24:RA:2010:G:H5''	41:RW:42:ARG:HB2	1.87	0.55
1:XA:152:A:H62	1:XA:169:C:H42	1.53	0.55
1:XA:946:A:H2'	1:XA:947:G:C8	2.41	0.55
1:XA:1310:G:O2'	1:XA:1311:G:OP1	2.23	0.55
7:XG:5:ARG:HD3	7:XG:7:ALA:H	1.70	0.55
24:YA:679:C:H2'	24:YA:680:G:H8	1.71	0.55
24:YA:706:A:OP1	26:YD:7:LYS:NZ	2.29	0.55
24:YA:1639:U:H2'	24:YA:1640:C:H5''	1.89	0.55
36:YR:86:ARG:NH2	36:YR:118:GLU:OXT	2.40	0.55
50:Y5:36:CYS:O	50:Y5:37:LYS:HB3	2.06	0.55
1:QA:946:A:H2'	1:QA:947:G:C8	2.42	0.55
1:QA:1095:U:OP1	1:QA:1108:G:N2	2.32	0.55
1:QA:1104:G:H4'	2:QB:111:ARG:CZ	2.36	0.55
12:QL:60:LEU:HD12	12:QL:62:SER:H	1.71	0.55
13:QM:106:ASN:OD1	13:QM:106:ASN:N	2.37	0.55
24:RA:949:C:H2'	24:RA:950:G:H8	1.72	0.55
24:RA:1359:A:H62	24:RA:1372:U:H3	1.54	0.55
24:RA:1422:G:H1	24:RA:1576:U:H3	1.52	0.55
31:RI:54:GLN:OE1	31:RI:57:ARG:NH2	2.39	0.55
35:RQ:62:GLY:HA2	44:RZ:116:VAL:HG21	1.89	0.55
39:RU:91:ASP:O	39:RU:93:LYS:N	2.39	0.55
50:R5:46:CYS:SG	50:R5:49:CYS:N	2.78	0.55
24:YA:1971:A:OP2	26:YD:242:ARG:NH2	2.34	0.55
24:YA:2052:G:H4'	27:YE:143:ASN:O	2.06	0.55
24:YA:2809:A:H2'	24:YA:2810:A:C8	2.42	0.55
47:Y2:4:SER:OG	47:Y2:5:GLU:N	2.40	0.55
24:RA:1639:U:H2'	24:RA:1640:C:H5''	1.89	0.55
24:RA:2070:G:H2'	24:RA:2071:A:H8	1.72	0.55
9:XI:82:ALA:HB1	9:XI:102:LEU:HD22	1.88	0.55
24:YA:2124:G:H3'	24:YA:2125:G:H8	1.71	0.55
1:QA:581:G:O3'	15:QO:64:ARG:NH2	2.40	0.55
10:QJ:21:GLN:HA	10:QJ:24:VAL:HG12	1.89	0.55
24:RA:1359:A:N6	24:RA:1372:U:H3	2.05	0.55
24:RA:1804:C:N4	24:RA:1814:G:N2	2.55	0.55
24:RA:2030:A:H4'	24:RA:2031:A:C8	2.42	0.55
25:RB:44:G:O2'	25:RB:47:C:N4	2.38	0.55
33:RO:23:ARG:NH2	33:RO:28:SER:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:359:U:H3'	1:XA:360:A:H8	1.72	0.55
23:XX:5:A:H2'	23:XX:6:G:H8	1.72	0.55
33:YO:43:VAL:HG23	33:YO:55:GLY:H	1.72	0.55
43:YY:79:CYS:HB3	43:YY:102:CYS:HB3	1.88	0.55
24:RA:182:A:N3	24:RA:433:C:O2'	2.37	0.55
24:RA:442:G:H1'	28:RF:48:THR:HG21	1.89	0.55
24:RA:1019:U:H3	24:RA:1142(A):A:H62	1.55	0.55
24:RA:2375:G:N2	24:RA:2378:A:OP2	2.36	0.55
1:XA:35:G:O2'	12:XL:118:SER:O	2.19	0.55
3:XC:6:HIS:HE1	3:XC:8:ILE:HB	1.72	0.55
7:XG:16:LEU:HD22	9:XI:44:VAL:HG13	1.89	0.55
18:XR:56:THR:HG23	18:XR:58:LEU:H	1.72	0.55
24:YA:431:U:H2'	24:YA:432:A:H8	1.72	0.55
24:YA:807:U:OP2	34:YP:41:ARG:NH1	2.40	0.55
1:XA:587:G:H22	1:XA:754:C:P	2.30	0.55
1:XA:1151:A:H2'	1:XA:1152:A:C8	2.42	0.55
1:QA:45:U:H2'	1:QA:46:G:C8	2.42	0.55
1:QA:742:G:OP2	15:QO:35:ARG:NH2	2.39	0.55
1:QA:985:C:H2'	1:QA:986:A:H8	1.70	0.55
3:QC:5:ILE:HD13	10:QJ:51:ARG:HH21	1.72	0.55
1:XA:410:G:H4'	1:XA:411:A:OP1	2.06	0.55
1:QA:545:C:H5'	4:QD:72:GLU:HG3	1.89	0.54
1:QA:1372:U:H5''	9:QI:71:SER:HB3	1.89	0.54
1:QA:1414:U:H2'	1:QA:1415:G:H8	1.73	0.54
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.88	0.54
24:RA:10:G:O2'	24:RA:2801:A:O2'	2.25	0.54
24:RA:517:C:HO2'	41:RW:18:ARG:HH22	1.52	0.54
24:RA:2696:U:H2'	24:RA:2697:G:H8	1.72	0.54
3:XC:88:ARG:HA	3:XC:91:LEU:HD12	1.90	0.54
26:YD:50:THR:OG1	26:YD:51:VAL:N	2.40	0.54
24:RA:620:G:H4'	24:RA:621:A:H5''	1.89	0.54
29:RG:63:ILE:HG22	29:RG:143:GLU:HB2	1.88	0.54
1:XA:902:G:H2'	1:XA:903:G:H8	1.73	0.54
11:XK:33:THR:HA	11:XK:39:PRO:HA	1.89	0.54
24:YA:676:A:H8	24:YA:2069:G:H21	1.53	0.54
24:YA:994:C:OP2	39:YU:54:LYS:NZ	2.33	0.54
24:YA:1316:U:H2'	24:YA:1317:A:C8	2.42	0.54
38:YT:50:ILE:HD11	38:YT:100:TYR:HA	1.89	0.54
43:YY:102:CYS:SG	43:YY:103:GLY:N	2.80	0.54
24:RA:74:A:H4'	24:RA:75:G:O5'	2.07	0.54
24:RA:1026:U:H4'	24:RA:1027:A:OP1	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1824:G:N3	26:RD:254:THR:OG1	2.40	0.54
4:XD:61:LYS:NZ	4:XD:61:LYS:CG	2.69	0.54
24:YA:1645:G:H5''	24:YA:1646:C:H5'	1.88	0.54
24:RA:2355:C:H4'	45:R0:24:LYS:HG3	1.89	0.54
27:RE:48:GLN:OE1	27:RE:64:LYS:NZ	2.37	0.54
38:RT:51:ARG:NH1	38:RT:100:TYR:OH	2.40	0.54
44:RZ:102:LEU:HD11	44:RZ:124:ILE:HG12	1.90	0.54
1:XA:1304:G:H21	1:XA:1333:A:H62	1.54	0.54
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.89	0.54
24:YA:947:G:H2'	24:YA:948:G:H8	1.72	0.54
24:YA:958:U:OP2	35:YQ:14:ARG:NH1	2.41	0.54
32:YN:26:LEU:O	32:YN:30:ILE:HG12	2.08	0.54
33:YO:87:ILE:HD12	33:YO:91:LEU:HA	1.90	0.54
1:QA:1504:G:H4'	1:QA:1505:G:O5'	2.08	0.54
24:RA:566:U:H5''	34:RP:29:LYS:HE3	1.90	0.54
24:RA:589:C:H2'	24:RA:590:A:C8	2.43	0.54
24:RA:2304:G:H5'	29:RG:124:SER:OG	2.08	0.54
24:RA:2876:G:O2'	38:RT:3:ARG:NH1	2.40	0.54
26:RD:147:LEU:HD23	26:RD:148:GLU:HG3	1.89	0.54
50:R5:33:CYS:HB2	50:R5:40:LYS:HD3	1.87	0.54
1:XA:405:U:O4	4:XD:2:GLY:N	2.41	0.54
2:XB:47:THR:HG23	2:XB:202:PRO:HG2	1.89	0.54
4:XD:145:GLU:HG3	4:XD:184:LYS:HE2	1.88	0.54
7:XG:23:VAL:O	7:XG:27:ILE:HG12	2.08	0.54
24:YA:1062:G:H2'	24:YA:1063:G:C8	2.42	0.54
24:YA:1830:C:H2'	24:YA:1831:G:H8	1.72	0.54
35:YQ:81:VAL:O	35:YQ:82:ARG:NE	2.29	0.54
43:YY:1:MET:HG3	43:YY:2:ARG:H	1.72	0.54
1:QA:486:U:H2'	1:QA:487:A:H8	1.72	0.54
1:QA:1287:A:H2'	1:QA:1288:A:C8	2.43	0.54
24:RA:270(N):G:OP1	31:RI:57:ARG:NH1	2.36	0.54
24:RA:2420:C:H5'	51:R6:54:ILE:HD11	1.90	0.54
24:RA:2749:A:OP1	30:RH:4:ILE:HG23	2.08	0.54
34:RP:126:VAL:HG13	34:RP:147:LEU:HD21	1.89	0.54
4:XD:64:LEU:HA	4:XD:67:ILE:HD12	1.89	0.54
9:XI:10:ARG:HD2	9:XI:105:ASP:HB2	1.89	0.54
24:YA:270(E):G:H1	24:YA:270(U):C:H42	1.54	0.54
39:YU:29:SER:OG	39:YU:30:LYS:NZ	2.34	0.54
1:QA:1060:C:H2'	1:QA:1061:G:H8	1.72	0.54
1:QA:1346:A:H5''	9:QI:120:ARG:HH12	1.73	0.54
24:RA:2133:G:H1'	24:RA:2158:A:H61	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RP:47:ASP:OD2	53:R8:59:LYS:NZ	2.41	0.54
44:RZ:145:GLU:HG3	44:RZ:146:ILE:HG12	1.89	0.54
1:XA:1085:U:OP1	1:XA:1094:G:N2	2.41	0.54
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.43	0.54
5:XE:33:VAL:HG23	5:XE:112:LEU:HD22	1.89	0.54
8:XH:21:LYS:HD3	8:XH:24:THR:HG22	1.90	0.54
24:YA:1338:G:N7	42:YX:62:LYS:NZ	2.49	0.54
24:YA:2795:G:N2	24:YA:2799:A:OP2	2.41	0.54
1:QA:1451:A:H5''	1:QA:1452:C:H5'	1.89	0.54
4:QD:12:CYS:HB3	4:QD:33:MET:HE2	1.89	0.54
13:QM:17:VAL:HA	13:QM:20:THR:HG23	1.90	0.54
20:QT:85:MET:HA	20:QT:88:VAL:HG22	1.89	0.54
24:RA:270(S):G:H2'	24:RA:270(T):G:H8	1.72	0.54
24:RA:466:A:OP1	52:R7:34:ARG:NH1	2.40	0.54
24:RA:605:C:O2	24:RA:657:U:O2'	2.26	0.54
24:RA:675:A:N3	24:RA:2443:C:O2'	2.37	0.54
24:RA:1341:U:OP1	24:RA:1397:U:N3	2.36	0.54
24:RA:1818:U:H2'	26:RD:157:ARG:HG2	1.90	0.54
24:RA:2022:U:OP2	50:R5:15:ARG:NH2	2.41	0.54
24:RA:2137:C:H42	24:RA:2154:G:H1	1.56	0.54
30:RH:101:ARG:HE	30:RH:117:PRO:HG2	1.73	0.54
1:XA:718:G:O6	18:XR:74:ARG:NH1	2.40	0.54
24:YA:1022:G:O2'	24:YA:1023:U:OP2	2.22	0.54
24:YA:1105:U:H2'	24:YA:1106:G:H8	1.72	0.54
24:YA:1231:G:H2'	24:YA:1232:G:H8	1.73	0.54
24:YA:1859:A:N6	24:YA:1883:G:HO2'	2.06	0.54
24:YA:2882:A:OP1	36:YR:96:ARG:NH1	2.36	0.54
1:QA:165:C:H2'	1:QA:166:G:H8	1.73	0.54
1:QA:410:G:H4'	1:QA:411:A:OP1	2.07	0.54
1:QA:736:C:H2'	1:QA:737:A:C8	2.43	0.54
1:QA:831:U:H3	1:QA:855:G:H1	1.56	0.54
1:QA:833:U:H3	1:QA:853:G:H1	1.56	0.54
14:QN:21:TYR:OH	14:QN:23:ARG:NH2	2.39	0.54
18:QR:74:ARG:HD3	18:QR:81:PHE:HA	1.90	0.54
24:RA:1085:A:H2'	24:RA:1086:A:C4	2.43	0.54
24:RA:2539:C:H5'	54:R9:3:VAL:HG21	1.89	0.54
5:XE:37:ARG:NH1	5:XE:111:GLU:O	2.41	0.54
24:YA:581:C:H2'	24:YA:582:G:C8	2.43	0.54
24:YA:1062:G:H22	24:YA:1078:U:H1'	1.72	0.54
24:YA:2469:A:H2	24:YA:2481:G:H21	1.56	0.54
1:QA:501:C:H1'	1:QA:549:C:H1'	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.43	0.54
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.42	0.54
24:RA:184:C:O2'	24:RA:217:G:N3	2.41	0.54
32:RN:133:GLN:HG3	32:RN:135:PRO:HD3	1.89	0.54
44:RZ:7:ALA:HB2	44:RZ:59:LEU:HB3	1.90	0.54
1:XA:436:C:H1'	4:XD:157:LEU:HD22	1.89	0.54
1:XA:581:G:OP1	15:XO:65:ARG:NH1	2.37	0.54
24:YA:309:G:N3	24:YA:329:G:O2'	2.41	0.54
24:YA:964:C:O2'	24:YA:2273:A:N3	2.36	0.54
24:YA:1537:C:H2'	24:YA:1538:G:C8	2.42	0.54
1:QA:642:A:N3	8:QH:113:SER:OG	2.40	0.53
6:QF:99:ALA:HB1	18:QR:23:LYS:HE3	1.90	0.53
24:RA:459:U:H2'	24:RA:460:A:H8	1.73	0.53
24:RA:579:G:O2'	24:RA:2019:A:OP1	2.22	0.53
27:RE:50:GLY:HA2	27:RE:77:ILE:HA	1.90	0.53
1:XA:410:G:N2	1:XA:432:A:H62	2.05	0.53
24:YA:2233:U:H2'	24:YA:2234:G:C8	2.43	0.53
35:YQ:66:ILE:HA	35:YQ:104:PHE:HA	1.90	0.53
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.44	0.53
11:QK:22:HIS:HB3	11:QK:29:ILE:HG13	1.90	0.53
13:QM:23:TYR:HE2	13:QM:70:LEU:HB2	1.72	0.53
22:QV:20:G:H5'	22:QV:21:U:H5	1.73	0.53
24:RA:138:G:N2	42:RX:44:GLU:OE1	2.37	0.53
24:RA:307:G:H3'	24:RA:307:G:C8	2.43	0.53
24:RA:848:G:H2'	24:RA:849:A:C8	2.43	0.53
24:RA:861:A:N3	25:RB:79:C:O2'	2.40	0.53
24:RA:1035:U:H2'	24:RA:1036:G:C8	2.43	0.53
24:RA:1972:A:H2'	24:RA:1973:G:H8	1.72	0.53
37:RS:27:SER:HB3	37:RS:38:GLN:HB3	1.88	0.53
50:R5:41:PRO:O	50:R5:44:THR:OG1	2.25	0.53
1:XA:79:G:H1	1:XA:90:C:H42	1.56	0.53
1:XA:376:G:H5''	16:XP:5:ARG:HB2	1.90	0.53
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.44	0.53
4:XD:139:ARG:NH1	4:XD:140:VAL:O	2.41	0.53
24:YA:1006:C:H5'	32:YN:28:THR:HG23	1.91	0.53
24:YA:1996:C:OP1	33:YO:31:LYS:NZ	2.41	0.53
44:YZ:72:ARG:NH2	44:YZ:97:GLU:O	2.30	0.53
1:QA:21:G:H2'	1:QA:22:G:C8	2.43	0.53
1:QA:368:U:OP1	31:YI:91:SER:OG	2.23	0.53
1:QA:1010:G:H2'	1:QA:1011:G:H8	1.72	0.53
44:RZ:128:VAL:HG12	44:RZ:129:SER:H	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:356:A:N3	1:XA:368:U:O2'	2.32	0.53
19:XS:63:THR:H	19:XS:66:MET:HE3	1.74	0.53
24:YA:631:A:OP2	53:Y8:46:ARG:NH2	2.41	0.53
1:QA:137:C:H2'	1:QA:138:G:H8	1.72	0.53
1:QA:410:G:H21	1:QA:432:A:H62	1.54	0.53
24:RA:177:G:H5'	24:RA:178:G:C8	2.43	0.53
24:RA:262:A:N3	24:RA:430:G:O2'	2.33	0.53
24:RA:822:U:H2'	24:RA:823:G:H8	1.72	0.53
24:RA:1012:U:OP1	39:RU:75:ASN:ND2	2.38	0.53
24:RA:1315:C:O2'	24:RA:1392:A:N3	2.35	0.53
24:RA:1542:G:O6	24:RA:1543:A:N6	2.42	0.53
24:RA:2031:A:N3	24:RA:2455:G:O2'	2.37	0.53
38:RT:24:PRO:HG3	38:RT:52:ILE:HG22	1.90	0.53
1:XA:34:C:H2'	1:XA:35:G:C8	2.44	0.53
1:XA:711:G:H2'	1:XA:712:A:H8	1.74	0.53
9:XI:63:ILE:HG21	9:XI:77:ILE:HD12	1.91	0.53
24:YA:2070:G:H2'	24:YA:2071:A:C8	2.44	0.53
24:YA:2638:G:OP1	27:YE:82:ARG:NH2	2.42	0.53
24:YA:2683:C:OP1	38:YT:53:ARG:NH2	2.33	0.53
27:YE:36:ARG:NH1	27:YE:85:ASN:OD1	2.40	0.53
3:QC:19:GLU:O	3:QC:40:ARG:NH2	2.41	0.53
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.25	0.53
26:RD:72:LYS:HD2	26:RD:75:ILE:HD12	1.90	0.53
47:R2:4:SER:OG	47:R2:5:GLU:N	2.41	0.53
1:XA:324:G:P	20:XT:22:ARG:HE	2.31	0.53
1:XA:452:A:N6	1:XA:480:U:H3	1.97	0.53
5:XE:103:GLY:O	5:XE:106:PRO:HD2	2.08	0.53
8:XH:29:SER:HB3	8:XH:32:LYS:HD2	1.90	0.53
24:YA:1124:C:O2	54:Y9:36:GLN:NE2	2.41	0.53
1:QA:509:A:H4'	1:QA:510:A:OP1	2.07	0.53
24:RA:783:A:H8	24:RA:784:A:H4'	1.73	0.53
24:RA:2329:G:H2'	24:RA:2330:G:C8	2.44	0.53
33:RO:15:GLY:HA2	33:RO:47:ILE:HG12	1.90	0.53
50:R5:56:LYS:NZ	50:R5:59:GLU:OE1	2.41	0.53
1:XA:624:C:H2'	1:XA:625:G:H8	1.72	0.53
24:YA:300:A:OP1	43:YY:86:ARG:NH2	2.41	0.53
24:YA:947:G:H2'	24:YA:948:G:C8	2.44	0.53
29:YG:161:THR:HG22	29:YG:163:ALA:H	1.74	0.53
1:QA:300:A:O2'	1:QA:564:C:N3	2.41	0.53
1:QA:324:G:N1	1:QA:327:A:OP2	2.41	0.53
1:QA:689:C:OP2	11:QK:55:LYS:NZ	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:982:U:O2	1:QA:1222:G:N1	2.40	0.53
11:QK:34:ASP:OD1	11:QK:38:ASN:N	2.42	0.53
24:RA:1657:C:C3'	27:RE:133:LYS:HG2	2.38	0.53
24:RA:2081:C:H2'	24:RA:2082:A:H8	1.73	0.53
24:RA:2859:G:H2'	24:RA:2860:A:C8	2.44	0.53
1:XA:266:G:O2'	1:XA:267:C:OP2	2.23	0.53
1:XA:359:U:C6	1:XA:359:U:O5'	2.62	0.53
1:XA:692:U:OP1	11:XK:124:LYS:NZ	2.31	0.53
24:YA:521:G:H2'	24:YA:522:G:H8	1.74	0.53
24:YA:1155:A:O3'	39:YU:55:ARG:NH1	2.41	0.53
24:YA:2528:U:O2'	24:YA:2530:A:OP1	2.21	0.53
37:YS:14:VAL:O	37:YS:18:ILE:HG12	2.09	0.53
1:QA:45:U:H2'	1:QA:46:G:H8	1.73	0.53
1:QA:1227:A:N3	19:QS:83:HIS:ND1	2.57	0.53
24:RA:512:G:H4'	24:RA:513:A:O5'	2.09	0.53
24:RA:919:G:N2	24:RA:2269:A:OP2	2.41	0.53
24:RA:1230:C:H2'	24:RA:1231:G:H8	1.74	0.53
24:RA:1266:G:O2'	24:RA:2012:G:O6	2.22	0.53
24:RA:1360:A:H62	24:RA:1371:G:H21	1.57	0.53
26:RD:136:ILE:O	26:RD:168:ARG:NH2	2.41	0.53
1:XA:189:U:O2	17:XQ:63:ARG:NH2	2.42	0.53
1:XA:1129:C:N4	1:XA:1135:U:O4	2.42	0.53
18:XR:67:ALA:HA	18:XR:70:ILE:HD12	1.91	0.53
24:YA:743:G:O2'	24:YA:1659:U:OP1	2.22	0.53
1:QA:99:C:H2'	1:QA:101:A:C8	2.42	0.53
1:QA:345:C:H3'	38:RT:41:ARG:HH12	1.72	0.53
24:RA:391:G:O2'	24:RA:410:G:OP1	2.25	0.53
24:RA:679:C:H2'	24:RA:680:G:H8	1.73	0.53
24:RA:1061:U:H5''	24:RA:1070:A:H1'	1.90	0.53
24:RA:1485:G:H1	24:RA:1504:C:H42	1.57	0.53
28:RF:124:LEU:HD12	28:RF:191:ARG:HH21	1.73	0.53
29:RG:161:THR:HG22	29:RG:163:ALA:H	1.74	0.53
1:XA:64:G:H5''	1:XA:65:U:OP1	2.09	0.53
24:YA:387:U:OP1	46:Y1:20:ARG:NH1	2.35	0.53
24:YA:603:A:N1	24:YA:625:G:O2'	2.35	0.53
24:YA:840:C:H2'	24:YA:841:A:C8	2.44	0.53
24:YA:1062:G:H2'	24:YA:1063:G:H8	1.74	0.53
24:YA:1802:A:H2'	24:YA:1803:A:C8	2.43	0.53
24:YA:2030:A:H4'	24:YA:2031:A:C8	2.44	0.53
27:YE:18:ASP:HB3	38:YT:82:LEU:HD21	1.91	0.53
1:QA:1064:G:H1'	1:QA:1066:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1252:A:H61	1:QA:1285:A:H61	1.55	0.53
24:RA:1403:C:H5''	24:RA:1471:A:H1'	1.91	0.53
24:RA:2006:C:O2'	24:RA:2823:A:N3	2.41	0.53
24:RA:2352:A:N6	24:RA:2365:G:O2'	2.42	0.53
24:RA:2515:C:H2'	24:RA:2516:G:H8	1.74	0.53
34:RP:100:LEU:HB2	34:RP:106:LEU:HG	1.90	0.53
1:XA:263:A:OP2	20:XT:79:ARG:NH1	2.42	0.53
1:XA:407:G:H2'	1:XA:408:A:H8	1.73	0.53
1:XA:688:G:O2'	1:XA:704:A:N1	2.35	0.53
1:XA:1235:U:H5''	21:XU:3:LYS:HD2	1.90	0.53
3:XC:121:ALA:O	3:XC:125:GLU:HG3	2.09	0.53
7:XG:116:ALA:HA	7:XG:119:ARG:HE	1.74	0.53
9:XI:13:ALA:HB2	9:XI:68:GLY:HA3	1.91	0.53
24:YA:252:G:OP2	34:YP:50:ARG:NH1	2.41	0.53
24:YA:442:G:H1'	28:YF:48:THR:HG21	1.91	0.53
1:QA:152:A:H62	1:QA:169:C:H42	1.57	0.52
1:QA:152:A:H62	1:QA:169:C:N4	2.07	0.52
1:QA:181:G:O2'	1:QA:182:U:O5'	2.27	0.52
1:QA:352:C:O2'	1:QA:354:G:OP1	2.20	0.52
1:QA:1479:C:H2'	1:QA:1480:G:H8	1.74	0.52
24:RA:380:U:H2'	24:RA:381:G:H8	1.73	0.52
24:RA:2729:G:H1'	27:RE:187:ALA:HB2	1.89	0.52
29:RG:71:THR:N	29:RG:89:GLY:O	2.41	0.52
1:XA:770:C:H2'	1:XA:771:G:H8	1.74	0.52
8:XH:32:LYS:HA	8:XH:35:ILE:HD12	1.90	0.52
10:XJ:62:HIS:HD1	14:YN:59:ALA:HB3	1.74	0.52
24:YA:439:G:H2'	24:YA:440:G:H8	1.75	0.52
24:YA:881:G:H3'	24:YA:882:G:C8	2.44	0.52
24:YA:949:C:H2'	24:YA:950:G:H8	1.74	0.52
40:YV:60:GLU:OE1	40:YV:97:LYS:NZ	2.42	0.52
3:QC:78:GLY:HA3	3:QC:83:ARG:HB2	1.92	0.52
24:RA:589:C:H2'	24:RA:590:A:H8	1.72	0.52
24:RA:859:G:N2	24:RA:917:A:OP2	2.35	0.52
24:RA:1152:C:H2'	24:RA:1153:C:C6	2.44	0.52
24:RA:1358:G:N1	24:RA:1372:U:OP2	2.35	0.52
35:RQ:27:VAL:HG11	35:RQ:134:ARG:HA	1.90	0.52
39:RU:58:ARG:O	39:RU:62:ILE:HG12	2.09	0.52
44:RZ:123:ASP:OD1	44:RZ:123:ASP:N	2.42	0.52
24:YA:2011:U:OP2	41:YW:16:LYS:NZ	2.36	0.52
43:YY:39:VAL:HG13	43:YY:42:VAL:HB	1.90	0.52
24:RA:1405:U:H2'	24:RA:1406:U:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2630:G:H2'	24:RA:2631:G:H8	1.73	0.52
30:RH:164:TYR:HB2	30:RH:167:GLU:HB2	1.90	0.52
34:RP:49:ARG:HH11	53:R8:58:ILE:HG22	1.73	0.52
38:RT:5:ALA:HA	38:RT:8:LYS:HD3	1.91	0.52
1:XA:1446:A:HO2'	1:XA:1447:G:P	2.32	0.52
14:YN:24:CYS:HB2	14:YN:29:ARG:H	1.75	0.52
24:YA:140:A:H8	24:YA:1408:C:HO2'	1.56	0.52
24:YA:436:C:H2'	24:YA:438:G:H8	1.74	0.52
24:YA:956:G:N2	24:YA:960:A:OP2	2.42	0.52
24:YA:2345:G:H5'	24:YA:2347:C:O4'	2.10	0.52
1:QA:22:G:H2'	1:QA:23:C:C6	2.45	0.52
1:QA:624:C:H2'	1:QA:625:G:H8	1.74	0.52
1:QA:817:C:O2'	1:QA:1527:C:H5'	2.08	0.52
9:QI:24:GLY:N	9:QI:60:ASP:OD1	2.40	0.52
24:RA:964:C:O2'	24:RA:2273:A:N3	2.39	0.52
24:RA:1479:G:OP2	24:RA:1510:A:N6	2.41	0.52
24:RA:2037:G:H2'	24:RA:2038:G:C8	2.45	0.52
24:RA:2392:A:OP2	24:RA:2422:A:N6	2.42	0.52
37:RS:14:VAL:O	37:RS:18:ILE:HG12	2.09	0.52
41:RW:92:ARG:HH21	41:RW:94:ASP:HA	1.73	0.52
1:XA:224:C:H2'	1:XA:225:C:C6	2.44	0.52
4:XD:61:LYS:NZ	4:XD:72:GLU:OE2	2.22	0.52
4:XD:127:THR:HA	4:XD:132:ARG:HA	1.92	0.52
24:YA:414:C:H2'	24:YA:415:A:C8	2.44	0.52
24:YA:863:A:H2'	24:YA:864:G:H8	1.74	0.52
24:YA:1506:C:H2'	24:YA:1507:A:H5''	1.90	0.52
24:YA:1593:G:H2'	24:YA:1594:G:C8	2.45	0.52
24:YA:2032:G:OP2	24:YA:2454:G:O2'	2.26	0.52
24:YA:2700:C:O2'	24:YA:2701:C:H5'	2.09	0.52
30:YH:164:TYR:HB2	30:YH:167:GLU:HB2	1.91	0.52
44:YZ:4:ARG:HH11	44:YZ:60:GLU:HG2	1.75	0.52
44:YZ:166:SER:HB3	44:YZ:168:GLU:N	2.25	0.52
1:QA:946:A:O2'	1:QA:1333:A:N3	2.39	0.52
2:QB:47:THR:O	2:QB:51:LEU:HG	2.09	0.52
5:QE:81:GLU:HG2	5:QE:90:VAL:HG23	1.90	0.52
24:RA:2683:C:OP1	38:RT:53:ARG:NH2	2.36	0.52
36:RR:56:LYS:NZ	36:RR:90:ARG:O	2.43	0.52
20:XT:83:ARG:O	20:XT:87:LYS:HG3	2.10	0.52
24:YA:2181:G:H2'	24:YA:2182:G:C8	2.44	0.52
26:YD:168:ARG:HG2	26:YD:173:VAL:HG12	1.91	0.52
30:YH:4:ILE:HB	30:YH:6:ARG:HH11	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YP:135:LEU:HG	34:YP:139:LYS:HE2	1.92	0.52
35:YQ:75:THR:HG21	35:YQ:85:LYS:HE3	1.91	0.52
1:QA:28:G:O2'	1:QA:296:U:OP1	2.26	0.52
1:QA:1129:C:H5'	1:QA:1130:A:H5'	1.92	0.52
1:QA:1386:G:H2'	1:QA:1387:G:H8	1.75	0.52
4:QD:74:GLN:O	4:QD:78:LEU:HG	2.10	0.52
25:RB:52:A:H2	25:RB:53:A:H62	1.57	0.52
27:RE:45:THR:O	27:RE:83:ASP:N	2.41	0.52
1:XA:45:U:H2'	1:XA:46:G:C8	2.44	0.52
1:XA:573:A:N3	1:XA:883:C:O2'	2.38	0.52
1:XA:701:C:O2	1:XA:703:G:N1	2.43	0.52
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.90	0.52
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.92	0.52
24:YA:1422:G:H1	24:YA:1576:U:H3	1.58	0.52
24:YA:1636:C:H2'	24:YA:1637:A:C8	2.44	0.52
1:QA:119:A:H4'	1:QA:120:A:O5'	2.09	0.52
1:QA:986:A:N3	19:QS:52:TYR:OH	2.35	0.52
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.75	0.52
1:QA:1071:C:H5''	5:QE:49:PRO:HG2	1.92	0.52
1:QA:1159:U:O2'	1:QA:1160:G:N7	2.40	0.52
7:QG:24:THR:HA	7:QG:27:ILE:HG12	1.91	0.52
8:QH:19:VAL:HG13	8:QH:21:LYS:HG3	1.91	0.52
9:QI:104:ARG:NH1	9:QI:105:ASP:O	2.43	0.52
47:R2:45:SER:O	47:R2:46:GLN:NE2	2.43	0.52
1:XA:1071:C:H2'	1:XA:1072:G:H8	1.75	0.52
1:XA:1172:C:H2'	1:XA:1173:G:H8	1.74	0.52
1:XA:1408:A:C6	1:XA:1494:G:C6	2.98	0.52
24:YA:2291:U:H2'	24:YA:2292:C:C6	2.45	0.52
26:YD:25:THR:OG1	26:YD:26:LYS:N	2.42	0.52
30:YH:8:PRO:HG2	30:YH:69:ARG:HE	1.74	0.52
30:YH:153:LYS:HB3	30:YH:161:GLY:HA2	1.92	0.52
44:YZ:163:LEU:HD22	44:YZ:167:PRO:HG3	1.92	0.52
49:Y4:62:ARG:HD3	49:Y4:63:TYR:H	1.75	0.52
1:QA:825:G:O2'	8:QH:12:ARG:NH2	2.40	0.52
1:QA:1036:G:N7	1:QA:1037:C:N4	2.58	0.52
2:QB:219:VAL:HA	2:QB:222:ILE:HD12	1.92	0.52
20:QT:21:LYS:O	20:QT:25:ARG:HG3	2.10	0.52
24:RA:265:A:N6	24:RA:427:U:O2'	2.43	0.52
24:RA:2329:G:H2'	24:RA:2330:G:H8	1.74	0.52
24:RA:2626:C:H2'	24:RA:2627:G:C8	2.45	0.52
29:RG:9:ARG:O	29:RG:13:GLU:HG3	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:46:ARG:HA	10:XJ:64:GLU:HA	1.91	0.52
24:YA:2344:U:OP1	51:Y6:37:ARG:HD3	2.10	0.52
24:YA:2401:U:OP1	51:Y6:18:ARG:NH2	2.40	0.52
24:YA:2805:G:H2'	24:YA:2807:G:C8	2.45	0.52
26:YD:27:THR:HG21	26:YD:81:ALA:HB1	1.91	0.52
1:QA:628:G:H2'	1:QA:629:G:C8	2.45	0.52
11:QK:122:LYS:HD3	11:QK:124:LYS:H	1.75	0.52
24:RA:222:A:H62	24:RA:232:G:H21	1.57	0.52
24:RA:411:G:OP2	24:RA:2406:U:O2'	2.17	0.52
24:RA:654(A):G:H1	24:RA:654(T):C:H42	1.56	0.52
24:RA:1035:U:O3'	30:RH:59:ARG:NH1	2.42	0.52
24:RA:1354:A:H3'	24:RA:1355:G:H8	1.75	0.52
24:RA:2443:C:H2'	24:RA:2444:G:C8	2.45	0.52
37:RS:20:ARG:NH1	45:R0:48:GLY:O	2.43	0.52
1:XA:21:G:H2'	1:XA:22:G:H8	1.75	0.52
1:XA:1288:A:O3'	21:XU:10:ARG:NH1	2.43	0.52
1:XA:1299:A:C8	1:XA:1301:U:H1'	2.45	0.52
1:XA:1414:U:H2'	1:XA:1415:G:C8	2.45	0.52
9:XI:53:VAL:HA	9:XI:95:LYS:HE3	1.92	0.52
24:YA:253:C:OP2	53:Y8:5:LYS:NZ	2.32	0.52
24:YA:1491:G:H2'	24:YA:1492:G:H8	1.73	0.52
1:QA:444:C:H2'	1:QA:445:G:H8	1.75	0.52
1:QA:954:G:O6	13:QM:104:ARG:NH1	2.42	0.52
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.45	0.52
2:QB:47:THR:HA	2:QB:202:PRO:HG2	1.92	0.52
4:QD:163:GLU:HA	4:QD:166:LYS:HE3	1.92	0.52
24:RA:818:G:N1	24:RA:1188:U:OP2	2.27	0.52
24:RA:989:G:OP2	48:R3:11:SER:OG	2.15	0.52
27:RE:12:THR:OG1	27:RE:13:ARG:N	2.42	0.52
29:RG:41:GLN:HB3	29:RG:90:LEU:HB2	1.92	0.52
29:RG:67:LYS:HD2	49:R4:5:ILE:HD12	1.91	0.52
1:XA:243:A:H4'	1:XA:244:U:H3'	1.91	0.52
1:XA:452:A:O2'	16:XP:72:ARG:NH1	2.43	0.52
1:XA:1264:C:H2'	1:XA:1265:G:C8	2.45	0.52
5:XE:35:GLY:HA3	5:XE:112:LEU:HB3	1.91	0.52
24:YA:847:U:H5''	24:YA:847:U:H6	1.75	0.52
24:YA:2228:G:OP1	26:YD:261:LYS:NZ	2.28	0.52
24:YA:2632:A:HO2'	24:YA:2811:G:HO2'	1.58	0.52
26:YD:13:ARG:HA	26:YD:16:MET:HB2	1.92	0.52
32:YN:133:GLN:HG2	32:YN:135:PRO:HD3	1.92	0.52
33:YO:2:ILE:HB	33:YO:33:ALA:HB3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:985:C:H2'	1:QA:986:A:C8	2.45	0.51
9:QI:63:ILE:HG21	9:QI:77:ILE:HD12	1.93	0.51
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.76	0.51
17:QQ:21:VAL:HG11	17:QQ:59:ILE:HG13	1.91	0.51
24:RA:219:G:N3	24:RA:234:C:O2'	2.42	0.51
24:RA:581:C:H2'	24:RA:582:G:H8	1.74	0.51
24:RA:1316:U:H2'	24:RA:1317:A:H8	1.75	0.51
24:RA:1399:C:H2'	24:RA:1400:G:H8	1.75	0.51
26:RD:17:THR:O	26:RD:211:ARG:NH1	2.40	0.51
30:RH:138:LYS:HA	30:RH:141:VAL:HG22	1.91	0.51
1:XA:128:G:O2'	17:XQ:3:LYS:NZ	2.44	0.51
1:XA:250:A:H4'	1:XA:251:G:O5'	2.09	0.51
1:XA:642:A:N3	8:XH:113:SER:OG	2.41	0.51
10:XJ:77:PRO:HB2	10:XJ:79:ARG:HH22	1.74	0.51
24:YA:679:C:H2'	24:YA:680:G:C8	2.44	0.51
24:YA:1417:C:H2'	24:YA:1418:G:O4'	2.10	0.51
24:YA:2351:G:HO2'	24:YA:2352:A:H8	1.59	0.51
25:YB:43:C:O3'	29:YG:98:ARG:NH2	2.39	0.51
33:YO:24:VAL:HA	33:YO:39:ILE:HG22	1.92	0.51
1:QA:599:C:O2'	8:QH:129:VAL:O	2.23	0.51
1:QA:946:A:H2'	1:QA:947:G:H8	1.73	0.51
1:QA:1179:A:H5'	9:QI:83:ARG:HH21	1.75	0.51
19:QS:51:VAL:O	19:QS:57:HIS:HA	2.10	0.51
24:RA:220:G:O2'	24:RA:233:A:N3	2.42	0.51
26:RD:17:THR:HB	26:RD:205:VAL:H	1.74	0.51
29:RG:15:VAL:HG13	29:RG:175:LEU:HB2	1.91	0.51
36:RR:86:ARG:NH2	36:RR:118:GLU:OXT	2.43	0.51
1:XA:377:G:H2'	1:XA:378:G:H8	1.75	0.51
1:XA:529:G:O6	12:XL:49:ASN:ND2	2.43	0.51
1:XA:562:C:H1'	12:XL:15:ARG:HD2	1.92	0.51
1:XA:1441:G:H21	1:XA:1460:A:N6	2.05	0.51
15:XO:39:LEU:HD23	15:XO:56:LEU:HB2	1.92	0.51
24:YA:675:A:OP1	28:YF:63:LYS:NZ	2.35	0.51
24:YA:1005:C:O2'	32:YN:28:THR:HG21	2.09	0.51
24:YA:1166:C:H2'	24:YA:1167:U:C6	2.45	0.51
24:YA:2327:A:H2'	24:YA:2328:A:C8	2.46	0.51
24:YA:2352:A:N6	24:YA:2365:G:O2'	2.44	0.51
49:Y4:57:GLU:HG3	49:Y4:61:ARG:HG3	1.92	0.51
1:QA:663:A:H5''	18:QR:61:LYS:HE2	1.92	0.51
1:QA:1013:G:N2	1:QA:1016:A:OP2	2.36	0.51
1:QA:1065:U:O2'	1:QA:1066:C:OP2	2.23	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:309:G:OP2	24:RA:309:G:H8	1.93	0.51
24:RA:783:A:H2'	24:RA:784:A:H4'	1.91	0.51
24:RA:1417:C:H2'	24:RA:1418:G:O4'	2.10	0.51
24:RA:2636:U:OP1	27:RE:80:GLU:N	2.32	0.51
24:RA:2867:G:OP2	38:RT:119:LYS:NZ	2.33	0.51
35:RQ:66:ILE:HA	35:RQ:104:PHE:HA	1.91	0.51
40:RV:51:VAL:HG22	40:RV:53:GLU:H	1.75	0.51
44:RZ:91:LEU:HD12	44:RZ:130:PRO:HB3	1.92	0.51
50:R5:16:ARG:NH1	50:R5:17:ASP:OD1	2.43	0.51
1:XA:35:G:H5'	12:XL:104:VAL:CG2	2.41	0.51
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.45	0.51
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.45	0.51
7:XG:20:ASP:HB3	7:XG:23:VAL:HG12	1.92	0.51
24:YA:1224:G:OP2	40:YV:66:ARG:NH1	2.41	0.51
28:YF:65:TRP:NE1	28:YF:73:ALA:O	2.37	0.51
29:YG:142:PRO:HB2	49:Y4:31:ILE:HG21	1.93	0.51
38:YT:3:ARG:HB2	38:YT:6:LEU:HB2	1.92	0.51
6:QF:30:LEU:HD23	6:QF:75:LEU:HD11	1.92	0.51
24:RA:1131:G:HO2'	24:RA:1132:A:H8	1.58	0.51
24:RA:1316:U:H2'	24:RA:1317:A:C8	2.46	0.51
24:RA:2387:U:O2'	45:R0:19:LYS:NZ	2.44	0.51
29:RG:136:ARG:HH11	29:RG:137:GLU:HG2	1.76	0.51
40:RV:66:ARG:HH12	40:RV:88:ARG:HD3	1.75	0.51
46:R1:83:GLU:HG2	46:R1:85:LEU:H	1.73	0.51
1:XA:539:A:H2'	1:XA:540:G:C8	2.46	0.51
2:XB:96:ARG:HH11	2:XB:98:LEU:HA	1.75	0.51
24:YA:380:U:H2'	24:YA:381:G:C8	2.45	0.51
24:YA:503:A:H4'	24:YA:504:U:H5'	1.93	0.51
24:YA:1510:A:O2'	24:YA:1512:G:N7	2.40	0.51
24:YA:2096:U:O4	24:YA:2193:G:O6	2.28	0.51
24:YA:2102:U:H2'	24:YA:2103:C:C6	2.46	0.51
27:YE:48:GLN:OE1	27:YE:64:LYS:NZ	2.42	0.51
36:YR:24:GLN:HE22	36:YR:40:LYS:HB3	1.76	0.51
24:RA:949:C:H2'	24:RA:950:G:C8	2.46	0.51
24:RA:2126:A:H4'	24:RA:2127:G:O5'	2.11	0.51
24:RA:2564:A:OP1	24:RA:2648:C:H4'	2.11	0.51
30:RH:39:PRO:O	30:RH:42:ARG:NH2	2.36	0.51
42:RX:27:THR:HB	42:RX:80:ILE:HG12	1.93	0.51
1:XA:73:G:H1	1:XA:97:U:H3	1.58	0.51
20:XT:53:LEU:HA	20:XT:56:MET:HG2	1.93	0.51
24:YA:303:U:H2'	24:YA:304:G:H8	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2108:C:O2	24:YA:2181:G:N2	2.32	0.51
25:YB:15:A:H5'	25:YB:16:G:C8	2.45	0.51
35:YQ:30:GLY:HA2	35:YQ:107:ALA:HB2	1.91	0.51
1:QA:1527:C:H2'	1:QA:1528:U:C6	2.46	0.51
3:QC:10:PHE:HD1	3:QC:11:ARG:HD2	1.75	0.51
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.76	0.51
24:RA:962:G:H2'	24:RA:963:U:C6	2.45	0.51
24:RA:2052:G:H4'	27:RE:143:ASN:O	2.11	0.51
24:RA:2070:G:H2'	24:RA:2071:A:C8	2.46	0.51
34:RP:52:GLU:HB2	34:RP:57:THR:HG22	1.92	0.51
1:XA:123:C:OP1	1:XA:311:C:O2'	2.28	0.51
1:XA:671:G:O2'	6:XF:80:ARG:NH1	2.41	0.51
1:XA:877:C:H2'	1:XA:878:G:H8	1.74	0.51
24:YA:1113:U:H2'	24:YA:1114:G:C8	2.46	0.51
24:YA:1416:G:H2'	24:YA:1417:C:C6	2.46	0.51
24:YA:1464:C:HO2'	24:YA:1528:A:H8	1.57	0.51
24:YA:2345:G:C6	24:YA:2347:C:N4	2.78	0.51
31:YI:39:ALA:HB1	31:YI:44:LEU:HD21	1.92	0.51
35:YQ:27:VAL:HG11	35:YQ:134:ARG:HA	1.92	0.51
22:XV:36:G:H2'	22:XV:37:G:C8	2.46	0.51
1:QA:195:A:H4'	20:QT:68:LYS:HE3	1.91	0.51
1:QA:902:G:H2'	1:QA:903:G:H8	1.76	0.51
1:QA:1355:G:H2'	1:QA:1356:G:C8	2.46	0.51
11:QK:34:ASP:HB3	11:QK:40:ILE:HD11	1.91	0.51
24:RA:947:G:H2'	24:RA:948:G:H8	1.76	0.51
24:RA:1353:A:H2'	24:RA:1354:A:C8	2.46	0.51
24:RA:2122:U:H2'	24:RA:2123:G:C8	2.46	0.51
27:RE:38:THR:OG1	27:RE:40:GLU:OE1	2.29	0.51
32:RN:47:ALA:HB2	32:RN:112:LEU:HD11	1.90	0.51
1:XA:723:U:OP1	23:XX:7:G:O2'	2.28	0.51
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.74	0.51
24:YA:34:C:H41	24:YA:447:A:H61	1.58	0.51
24:YA:627:A:H4'	24:YA:628:G:H5'	1.91	0.51
24:YA:659:C:H2'	24:YA:660:G:H8	1.74	0.51
36:YR:88:ARG:NH2	36:YR:89:ASP:OD1	2.44	0.51
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.46	0.51
2:QB:102:LEU:HD21	2:QB:182:ILE:HG13	1.93	0.51
8:QH:9:MET:O	8:QH:13:ILE:HG12	2.11	0.51
13:QM:117:VAL:HG12	13:QM:118:ALA:H	1.76	0.51
24:RA:2443:C:H2'	24:RA:2444:G:H8	1.76	0.51
24:RA:2676:C:O2	24:RA:2732:G:N2	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RG:124:SER:HB3	29:RG:131:TYR:HE2	1.76	0.51
43:RY:97:ARG:HG3	43:RY:106:LEU:HB2	1.93	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HD13	1.93	0.51
4:XD:43:HIS:HA	4:XD:46:LYS:HD3	1.93	0.51
24:YA:1942:C:OP2	24:YA:1943:U:O2'	2.21	0.51
24:YA:2354:G:H4'	45:Y0:35:ASN:HD22	1.76	0.51
25:YB:15:A:H5'	25:YB:16:G:H8	1.76	0.51
29:YG:82:LEU:HD21	29:YG:88:ILE:HD13	1.92	0.51
31:YI:86:THR:HA	31:YI:123:LEU:HB2	1.93	0.51
35:YQ:59:ARG:HD2	35:YQ:59:ARG:H	1.75	0.51
1:QA:448:A:H62	1:QA:486:U:H3	1.58	0.51
1:QA:1032(B):G:N2	1:QA:1033:G:O6	2.43	0.51
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.76	0.51
10:QJ:54:PHE:CD2	10:QJ:55:LYS:HD3	2.46	0.51
22:QV:37:G:H2'	22:QV:38:G:C8	2.46	0.51
24:RA:586:A:H5'	28:RF:89:VAL:HG21	1.93	0.51
36:RR:104:ARG:HG3	36:RR:107:ASP:HB3	1.92	0.51
1:XA:689:C:OP2	11:XK:55:LYS:NZ	2.44	0.51
1:XA:971:G:H5''	1:XA:972:C:H5''	1.91	0.51
1:XA:1028:C:H2'	1:XA:1028(A):C:C6	2.46	0.51
24:YA:576:U:H2'	24:YA:577:G:C8	2.46	0.51
24:YA:2303:G:N3	29:YG:132:ASN:ND2	2.58	0.51
24:YA:2306:C:H2'	24:YA:2307:G:H21	1.74	0.51
49:Y4:26:SER:OG	49:Y4:27:THR:N	2.44	0.51
1:QA:544:G:OP1	4:QD:59:ARG:NH2	2.44	0.51
1:QA:701:C:OP1	1:QA:702:A:O2'	2.20	0.51
1:QA:1229:A:P	13:QM:114:ARG:HH21	2.35	0.51
12:QL:58:VAL:HG11	12:QL:85:ILE:HD11	1.92	0.51
12:QL:117:ARG:HB2	12:QL:122:THR:HB	1.92	0.51
15:QO:54:ARG:HA	15:QO:57:LEU:HD12	1.93	0.51
23:QX:6:C:H2'	23:QX:7:A:C8	2.46	0.51
24:RA:221:A:H4'	24:RA:222:A:O5'	2.11	0.51
24:RA:1570:A:H2'	24:RA:1571:A:C8	2.46	0.51
24:RA:2150:U:H2'	24:RA:2151:G:H8	1.76	0.51
35:RQ:37:LEU:HD11	35:RQ:130:LYS:HB2	1.93	0.51
1:XA:558:G:OP2	1:XA:559:A:O2'	2.25	0.51
1:XA:652:U:O4	1:XA:752:G:O2'	2.22	0.51
4:XD:62:GLN:HE22	4:XD:65:ARG:HH21	1.59	0.51
24:YA:1139:G:O2'	24:YA:1143:A:N1	2.39	0.51
24:YA:1265:A:H3'	50:Y5:19:ARG:HH21	1.75	0.51
24:YA:1508:A:O2'	24:YA:1509:C:O4'	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1539:G:H2'	24:YA:1540:G:C8	2.46	0.51
25:YB:37:C:O2	37:YS:95:HIS:NE2	2.41	0.51
1:QA:304:U:H2'	1:QA:305:G:C8	2.47	0.50
1:QA:359:U:H2'	1:QA:360:A:C8	2.47	0.50
1:QA:522:C:H41	12:QL:53:ARG:HH21	1.57	0.50
24:RA:181:A:H1'	24:RA:435:C:H5'	1.91	0.50
24:RA:530:G:O2'	24:RA:532:A:N7	2.43	0.50
24:RA:662:G:H2'	24:RA:663:G:H8	1.75	0.50
24:RA:1473:G:C8	24:RA:1473:G:C5'	2.90	0.50
24:RA:1950:G:OP2	24:RA:1950:G:N2	2.35	0.50
24:RA:2749:A:H5''	30:RH:4:ILE:HD12	1.93	0.50
1:XA:484:G:H4'	1:XA:485:G:O5'	2.10	0.50
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.93	0.50
24:YA:1161:C:H2'	24:YA:1162:G:H8	1.76	0.50
24:YA:1426:G:OP2	24:YA:1427:A:O2'	2.20	0.50
35:YQ:77:LYS:NZ	35:YQ:83:MET:O	2.42	0.50
38:YT:118:ARG:HA	38:YT:121:ILE:HG22	1.93	0.50
1:QA:657:G:H4'	15:QO:28:GLN:HG2	1.92	0.50
1:QA:701:C:H1'	1:QA:703:G:C6	2.47	0.50
3:QC:116:VAL:HA	3:QC:119:ARG:HG2	1.93	0.50
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.76	0.50
24:RA:270(L):U:H2'	31:RI:50:ARG:HH12	1.76	0.50
24:RA:1827:C:OP2	26:RD:222:ARG:NH1	2.44	0.50
24:RA:2368:C:H2'	24:RA:2369:A:H8	1.75	0.50
24:RA:2441:C:OP2	24:RA:2586:C:O2'	2.27	0.50
29:RG:37:VAL:H	29:RG:99:MET:HE3	1.77	0.50
1:XA:287:U:H2'	1:XA:288:A:C8	2.47	0.50
1:XA:339:C:OP2	33:YO:97:ARG:HD3	2.10	0.50
8:XH:135:CYS:SG	8:XH:136:GLU:N	2.84	0.50
24:YA:270(F):U:H3	24:YA:270(T):G:H1	1.60	0.50
24:YA:922:U:H2'	24:YA:923:C:C6	2.47	0.50
24:YA:1292:U:H2'	24:YA:1293:C:C6	2.47	0.50
25:YB:50:G:OP1	37:YS:63:THR:HG23	2.12	0.50
49:Y4:55:ARG:H	49:Y4:55:ARG:HD2	1.76	0.50
1:QA:973:G:O6	1:QA:974:A:N6	2.44	0.50
4:QD:62:GLN:HE22	4:QD:65:ARG:HH21	1.60	0.50
4:QD:63:LYS:O	4:QD:67:ILE:HG13	2.10	0.50
22:QV:37:G:H2'	22:QV:38:G:H8	1.75	0.50
24:RA:946:G:O6	24:RA:972:G:N2	2.45	0.50
24:RA:1830:C:H2'	24:RA:1831:G:H8	1.76	0.50
43:RY:39:VAL:HG23	43:RY:42:VAL:HB	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:627:G:H2'	1:XA:628:G:H8	1.76	0.50
1:XA:1273:G:H3'	1:XA:1274:G:H8	1.74	0.50
24:YA:1000:A:H2'	24:YA:1001:A:C8	2.46	0.50
24:YA:2103:C:O2	24:YA:2187:G:N2	2.44	0.50
24:YA:2115:G:O5'	24:YA:2166:G:O2'	2.29	0.50
24:YA:2776:A:H4'	24:YA:2777:G:O5'	2.10	0.50
8:QH:32:LYS:O	8:QH:36:LEU:HG	2.12	0.50
11:QK:44:SER:OG	11:QK:45:GLY:N	2.45	0.50
24:RA:83:G:O2'	24:RA:102:G:N2	2.44	0.50
24:RA:679:C:H2'	24:RA:680:G:C8	2.46	0.50
24:RA:1791:A:H3'	24:RA:1792:G:H8	1.75	0.50
24:RA:2285:C:OP1	51:R6:29:ASN:ND2	2.45	0.50
38:RT:50:ILE:HD11	38:RT:100:TYR:HA	1.92	0.50
1:XA:825:G:O2'	8:XH:12:ARG:NH2	2.41	0.50
24:YA:531:C:OP1	24:YA:561:G:N1	2.44	0.50
24:YA:691:C:H2'	24:YA:692:C:H6	1.77	0.50
24:YA:1203:G:H3'	24:YA:1204:A:H5''	1.91	0.50
24:YA:1204:A:O2'	24:YA:1205:U:O5'	2.30	0.50
24:YA:2537:U:H2'	24:YA:2538:C:C6	2.46	0.50
44:YZ:4:ARG:HG2	44:YZ:58:VAL:HB	1.93	0.50
49:Y4:16:CYS:SG	49:Y4:17:GLY:N	2.84	0.50
1:QA:1031:G:H2'	1:QA:1032:A:H8	1.77	0.50
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.30	0.50
24:RA:242:G:O2'	24:RA:254:G:O6	2.28	0.50
24:RA:1527:G:N2	24:RA:1546:C:N3	2.59	0.50
24:RA:1826:G:OP1	26:RD:224:ALA:N	2.43	0.50
49:R4:16:CYS:HB3	49:R4:20:ASN:HB3	1.93	0.50
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.47	0.50
14:YN:24:CYS:SG	14:YN:29:ARG:HB3	2.52	0.50
24:YA:815:C:OP2	40:YV:83:ARG:NH1	2.44	0.50
24:YA:1570:A:H2'	24:YA:1571:A:C8	2.46	0.50
31:YI:63:ALA:O	31:YI:66:GLU:HG2	2.12	0.50
35:YQ:28:ALA:HB3	35:YQ:67:ARG:HH12	1.75	0.50
39:YU:90:VAL:HG12	39:YU:91:ASP:H	1.76	0.50
44:YZ:13:GLU:HB3	44:YZ:18:LEU:HD21	1.93	0.50
1:QA:166:G:H2'	1:QA:167:G:H8	1.77	0.50
1:QA:359:U:H2'	1:QA:360:A:H8	1.77	0.50
1:QA:736:C:H2'	1:QA:737:A:H8	1.75	0.50
1:QA:922:G:H2'	1:QA:923:A:C8	2.46	0.50
1:QA:933:G:O6	7:QG:3:ARG:NH2	2.45	0.50
24:RA:1728:G:H8	24:RA:1732:A:H62	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RG:140:ILE:HG13	29:RG:141:PHE:HD2	1.76	0.50
33:RO:2:ILE:HB	33:RO:33:ALA:HB3	1.94	0.50
14:YN:24:CYS:SG	14:YN:27:CYS:SG	3.09	0.50
24:YA:358:U:H2'	24:YA:359:A:H8	1.75	0.50
24:YA:428:A:H3'	24:YA:429:A:H8	1.76	0.50
24:YA:510:C:H2'	24:YA:511:U:O4'	2.11	0.50
24:YA:847:U:O4	24:YA:933:A:N1	2.44	0.50
24:YA:2591:C:H2'	24:YA:2592:G:H8	1.76	0.50
24:YA:2849:U:O4	38:YT:23:ARG:NH1	2.38	0.50
25:YB:5:C:OP1	25:YB:61:G:O2'	2.29	0.50
27:YE:52:LEU:O	27:YE:74:PRO:HA	2.11	0.50
29:YG:16:ARG:HH21	29:YG:28:VAL:HG12	1.76	0.50
1:QA:514:C:H2'	1:QA:515:G:C8	2.45	0.50
1:QA:1074:G:O2'	2:QB:103:THR:OG1	2.23	0.50
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.27	0.50
2:QB:136:VAL:HG23	2:QB:139:LYS:HE3	1.94	0.50
24:RA:582:G:H2'	24:RA:583:G:H8	1.76	0.50
30:RH:4:ILE:HB	30:RH:6:ARG:HH11	1.77	0.50
23:XX:1:G:H2'	23:XX:2:G:H8	1.77	0.50
24:YA:271(D):G:H2'	24:YA:272:G:H8	1.77	0.50
24:YA:828:U:H4'	24:YA:831:G:C6	2.46	0.50
24:YA:1035:U:OP1	30:YH:59:ARG:NH1	2.45	0.50
24:YA:1324:G:H1'	24:YA:1616:A:N6	2.26	0.50
1:QA:643:C:H5'	8:QH:31:PHE:CD2	2.46	0.50
3:QC:113:ALA:HA	3:QC:116:VAL:HG22	1.94	0.50
8:QH:111:ILE:HG23	8:QH:134:ILE:HB	1.94	0.50
24:RA:1333:C:H2'	24:RA:1334:G:H8	1.77	0.50
24:RA:1598:C:O3'	42:RX:35:THR:OG1	2.30	0.50
24:RA:2056:G:N2	50:R5:4:HIS:O	2.45	0.50
27:RE:14:ILE:HG13	38:RT:14:TYR:HE2	1.77	0.50
37:RS:110:LEU:HD12	37:RS:112:PHE:H	1.77	0.50
49:R4:51:ASP:HB2	49:R4:53:GLU:HG3	1.94	0.50
1:XA:323:U:OP1	20:XT:26:ASN:ND2	2.45	0.50
1:XA:501:C:H1'	1:XA:549:C:H1'	1.92	0.50
1:XA:589:C:H5''	8:XH:29:SER:HB2	1.94	0.50
1:XA:997:U:H2'	1:XA:998:G:C8	2.46	0.50
1:XA:1318:A:H1'	19:XS:37:ARG:HH21	1.76	0.50
24:YA:288:C:H2'	24:YA:289:A:C8	2.43	0.50
24:YA:1592:C:H2'	24:YA:1593:G:C8	2.45	0.50
24:YA:1889:A:N3	24:YA:2086:U:O2'	2.45	0.50
24:YA:1937:A:N7	24:YA:1939:U:H2'	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1147:C:O2	9:QI:16:ARG:NH1	2.44	0.50
24:RA:226:G:O2'	24:RA:228:A:N6	2.44	0.50
24:RA:251:A:OP1	53:R8:7:HIS:NE2	2.30	0.50
24:RA:1000:A:OP2	24:RA:1154:G:N1	2.24	0.50
24:RA:2183:C:H2'	24:RA:2184:G:C8	2.46	0.50
26:RD:139:GLY:H	26:RD:165:ILE:HG23	1.76	0.50
1:XA:256:U:OP1	17:XQ:17:LYS:NZ	2.45	0.50
1:XA:483:C:OP2	1:XA:484:G:O2'	2.23	0.50
1:XA:737:A:H2'	1:XA:738:C:C6	2.47	0.50
1:XA:1512:U:H2'	1:XA:1513:A:C8	2.47	0.50
24:YA:796:C:H2'	24:YA:797:C:C6	2.47	0.50
24:YA:1230:C:H2'	24:YA:1231:G:C8	2.47	0.50
33:YO:88:ASN:OD1	33:YO:92:GLU:N	2.36	0.50
37:YS:26:LEU:HB3	37:YS:87:PHE:HA	1.93	0.50
4:QD:119:GLN:HA	4:QD:122:ARG:HE	1.76	0.49
11:QK:29:ILE:HG22	11:QK:44:SER:HB2	1.93	0.49
24:RA:1629:U:H2'	24:RA:1630:G:C8	2.47	0.49
28:RF:161:GLU:OE2	28:RF:164:ARG:NH2	2.42	0.49
43:RY:102:CYS:SG	43:RY:103:GLY:N	2.85	0.49
1:XA:112:G:H4'	1:XA:389:A:H4'	1.94	0.49
1:XA:1291:G:O2'	9:XI:38:GLN:OE1	2.30	0.49
10:XJ:43:ARG:O	10:XJ:67:THR:OG1	2.29	0.49
24:YA:819:A:OP2	24:YA:1187:G:N2	2.40	0.49
24:YA:2361:A:O5'	53:Y8:27:THR:OG1	2.30	0.49
24:YA:2849:U:OP2	38:YT:95:ARG:NH1	2.44	0.49
25:YB:40:U:H3	25:YB:43:C:H5''	1.77	0.49
26:YD:148:GLU:OE1	26:YD:151:LYS:NZ	2.44	0.49
32:YN:128:HIS:CE1	32:YN:134:ARG:HD2	2.47	0.49
1:QA:403:C:OP2	4:QD:74:GLN:NE2	2.45	0.49
1:QA:629:G:H2'	1:QA:630:G:C8	2.47	0.49
3:QC:83:ARG:O	3:QC:87:LEU:HG	2.11	0.49
24:RA:308:G:HO2'	24:RA:329:G:N2	2.08	0.49
24:RA:414:C:H2'	24:RA:415:A:H8	1.77	0.49
24:RA:996:A:OP2	39:RU:92:ARG:NH2	2.46	0.49
1:XA:851:G:H2'	1:XA:852:G:H8	1.77	0.49
1:XA:1306:A:N6	1:XA:1331:G:O2'	2.46	0.49
1:XA:1409:C:H2'	1:XA:1410:G:H8	1.77	0.49
7:XG:107:ALA:O	7:XG:110:GLN:NE2	2.45	0.49
24:YA:151:C:H2'	24:YA:152:G:H8	1.77	0.49
24:YA:597:U:H2'	24:YA:598:G:C8	2.46	0.49
24:YA:1598:C:H5'	42:YX:36:LYS:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2064:C:H2'	24:YA:2065:C:C6	2.47	0.49
42:YX:26:TYR:HE2	42:YX:89:ILE:H	1.60	0.49
44:YZ:7:ALA:HB2	44:YZ:59:LEU:HB3	1.94	0.49
1:QA:269:C:H2'	1:QA:270:A:H8	1.77	0.49
1:QA:1129:C:H42	1:QA:1141:C:H41	1.60	0.49
4:QD:11:LEU:H	4:QD:11:LEU:HD12	1.77	0.49
5:QE:121:LYS:NZ	5:QE:122:GLU:O	2.44	0.49
8:QH:51:VAL:HG21	8:QH:60:ARG:HG3	1.94	0.49
10:QJ:35:SER:HB2	10:QJ:73:ASP:HB2	1.93	0.49
24:RA:192:C:O2'	24:RA:802:A:N3	2.42	0.49
24:RA:730:C:H3'	24:RA:730:C:C6	2.47	0.49
24:RA:863:A:H2'	24:RA:864:G:H8	1.77	0.49
24:RA:1216:G:OP1	39:RU:11:ARG:NH2	2.28	0.49
24:RA:1265:A:H8	24:RA:1265:A:OP1	1.94	0.49
24:RA:1780:A:O2'	24:RA:1781:C:O2	2.24	0.49
24:RA:2056:G:OP2	24:RA:2057:A:OP2	2.30	0.49
36:RR:88:ARG:NH2	36:RR:89:ASP:OD1	2.45	0.49
37:RS:24:LEU:HB2	37:RS:85:VAL:HG13	1.94	0.49
1:XA:99:C:H2'	1:XA:101:A:C8	2.47	0.49
24:YA:1779:U:OP2	24:YA:1784:A:N6	2.39	0.49
24:YA:1827:C:OP2	26:YD:222:ARG:NH1	2.42	0.49
24:YA:2008:C:H2'	24:YA:2009:G:H8	1.76	0.49
25:YB:24:G:H1'	25:YB:27:C:H41	1.78	0.49
29:YG:81:LYS:HD3	29:YG:86:MET:HE1	1.94	0.49
1:QA:662:G:O2'	1:QA:836:G:OP1	2.30	0.49
1:QA:1302:U:O2	13:QM:27:LYS:NZ	2.43	0.49
10:QJ:16:LEU:HD12	10:QJ:94:VAL:HG22	1.95	0.49
24:RA:1771:C:H2'	24:RA:1772:G:C8	2.46	0.49
24:RA:2151:G:H2'	24:RA:2152:G:H8	1.77	0.49
26:RD:148:GLU:OE1	26:RD:151:LYS:NZ	2.40	0.49
27:RE:21:VAL:HG23	27:RE:185:LYS:HE3	1.94	0.49
2:XB:84:GLU:OE2	2:XB:233:SER:OG	2.26	0.49
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.45	0.49
24:YA:780:G:H21	24:YA:783:A:H62	1.60	0.49
24:YA:1399:C:H2'	24:YA:1400:G:H8	1.76	0.49
24:YA:2468:G:O2'	24:YA:2481:G:N2	2.46	0.49
24:RA:447:A:O4'	24:RA:449:A:N6	2.46	0.49
24:RA:631:A:OP2	53:R8:46:ARG:NH2	2.46	0.49
24:RA:1286:A:O2'	24:RA:1288:U:OP2	2.23	0.49
24:RA:1341:U:OP2	24:RA:1394:U:O2'	2.26	0.49
24:RA:2495:G:H5''	35:RQ:81:VAL:HG12	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:946:A:H2'	1:XA:947:G:H8	1.78	0.49
2:XB:91:PRO:HG3	2:XB:154:LEU:HB2	1.95	0.49
3:XC:116:VAL:HG13	3:XC:140:ARG:HH21	1.77	0.49
7:XG:41:ARG:HH12	7:XG:115:ARG:HH21	1.60	0.49
8:XH:112:LEU:HG	8:XH:133:LEU:HA	1.94	0.49
10:XJ:30:SER:O	10:XJ:30:SER:OG	2.29	0.49
24:YA:822:U:H2'	24:YA:823:G:H8	1.77	0.49
24:YA:2133:G:O2'	24:YA:2158:A:N1	2.45	0.49
29:YG:31:VAL:O	29:YG:33:ARG:NH1	2.43	0.49
1:QA:636:U:H2'	1:QA:637:G:H8	1.78	0.49
1:QA:1112:C:H1'	3:QC:179:ARG:HH11	1.78	0.49
24:RA:1426:G:OP2	24:RA:1427:A:O2'	2.16	0.49
24:RA:1592:C:H2'	24:RA:1593:G:H8	1.76	0.49
24:RA:1821:A:H2'	24:RA:1822:G:C8	2.48	0.49
24:RA:2102:U:H2'	24:RA:2103:C:H6	1.77	0.49
24:RA:2506:U:H3	24:RA:2584:U:H5	1.59	0.49
30:RH:25:LYS:HZ2	30:RH:27:LYS:H	1.61	0.49
38:RT:3:ARG:HG3	38:RT:6:LEU:HB3	1.93	0.49
44:RZ:144:LEU:HD22	44:RZ:150:LEU:HG	1.94	0.49
1:XA:673:G:O3'	6:XF:87:ARG:NH2	2.46	0.49
1:XA:816:A:OP2	1:XA:1526:G:O2'	2.30	0.49
24:YA:969:U:H2'	24:YA:970:C:C6	2.47	0.49
24:YA:1645:G:H5''	24:YA:1646:C:C5'	2.43	0.49
24:YA:2036:C:H2'	24:YA:2037:G:H8	1.77	0.49
24:YA:2314:C:H2'	24:YA:2315:G:C8	2.47	0.49
24:YA:2737:G:H2'	24:YA:2738:A:C8	2.47	0.49
37:YS:20:ARG:NH1	45:Y0:48:GLY:O	2.45	0.49
1:QA:362:G:OP2	12:QL:34:ARG:NH2	2.46	0.49
1:QA:707:C:H2'	1:QA:708:C:C6	2.47	0.49
1:QA:1392:G:H21	1:QA:1502:A:H8	1.59	0.49
15:QO:76:GLU:OE2	15:QO:79:ARG:NH2	2.45	0.49
24:RA:288:C:H2'	24:RA:289:A:H8	1.77	0.49
24:RA:581:C:H2'	24:RA:582:G:C8	2.47	0.49
24:RA:1657:C:HO2'	27:RE:133:LYS:HD2	1.76	0.49
24:RA:2798:C:H2'	24:RA:2799:A:C8	2.47	0.49
1:XA:1355:G:H2'	1:XA:1356:G:H8	1.76	0.49
23:XX:3:C:H2'	23:XX:4:A:C8	2.48	0.49
24:YA:1059:G:OP2	24:YA:1060:U:H5''	2.12	0.49
24:YA:2183:C:H2'	24:YA:2184:G:H8	1.76	0.49
24:YA:2289:G:H2'	24:YA:2290:G:H8	1.77	0.49
24:YA:2676:C:H2'	24:YA:2677:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2702:U:OP1	24:YA:2702:U:H6	1.96	0.49
24:YA:2836:U:H2'	24:YA:2837:G:C8	2.47	0.49
24:YA:2884:U:H2'	24:YA:2885:C:O4'	2.12	0.49
29:YG:129:GLY:HA2	29:YG:166:ASP:HA	1.94	0.49
8:QH:109:ILE:HD11	8:QH:120:THR:HB	1.95	0.49
12:QL:46:LYS:HZ2	12:QL:47:LYS:H	1.59	0.49
24:RA:840:C:H2'	24:RA:841:A:H8	1.76	0.49
24:RA:922:U:H2'	24:RA:923:C:C6	2.47	0.49
24:RA:1006:C:H5'	32:RN:28:THR:HG23	1.95	0.49
24:RA:2689:U:H4'	24:RA:2690:C:O5'	2.13	0.49
43:RY:37:VAL:O	43:RY:67:LEU:N	2.42	0.49
1:XA:407:G:OP1	4:XD:115:ARG:NH1	2.46	0.49
1:XA:1004:A:H1'	1:XA:1036:G:H22	1.77	0.49
4:XD:61:LYS:HD2	4:XD:206:PHE:CE2	2.48	0.49
5:XE:102:ALA:O	5:XE:107:ARG:NH2	2.46	0.49
8:XH:83:ILE:HG22	8:XH:137:VAL:HG22	1.93	0.49
14:YN:3:ARG:HH21	14:YN:4:LYS:HD3	1.76	0.49
24:YA:319:C:H2'	24:YA:320:A:C8	2.48	0.49
24:YA:852:G:H2'	24:YA:853:G:H8	1.78	0.49
24:YA:2627:G:O2'	24:YA:2781:A:N1	2.34	0.49
37:YS:25:ARG:NH1	37:YS:42:ASP:OD2	2.46	0.49
47:Y2:25:VAL:O	47:Y2:29:LYS:HG2	2.12	0.49
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.48	0.49
4:QD:101:LEU:HD12	4:QD:138:TYR:HB3	1.94	0.49
5:QE:76:ILE:HG23	5:QE:142:LEU:HD13	1.95	0.49
12:QL:32:PHE:HB3	12:QL:84:LEU:HD11	1.94	0.49
24:RA:303:U:H2'	24:RA:304:G:H8	1.77	0.49
24:RA:1791:A:H5'	26:RD:206:LEU:HD12	1.94	0.49
24:RA:2291:U:H2'	24:RA:2292:C:C6	2.48	0.49
35:RQ:58:PHE:HD2	35:RQ:61:GLY:HA3	1.78	0.49
39:RU:61:TRP:HB3	39:RU:93:LYS:O	2.12	0.49
42:RX:8:ILE:O	47:R2:36:ARG:NH2	2.46	0.49
44:RZ:53:ILE:HG22	44:RZ:71:VAL:HG13	1.93	0.49
1:XA:345:C:H1'	1:XA:346:G:OP2	2.12	0.49
3:XC:157:ILE:HG22	3:XC:164:ARG:HH21	1.77	0.49
3:XC:182:ILE:HD11	3:XC:201:TYR:HB3	1.93	0.49
9:XI:5:TYR:HE1	9:XI:16:ARG:HB2	1.77	0.49
9:XI:73:GLN:O	9:XI:77:ILE:HG12	2.13	0.49
10:XJ:7:LYS:HB3	10:XJ:97:GLU:HB3	1.94	0.49
17:XQ:28:PRO:HA	17:XQ:35:VAL:HA	1.95	0.49
23:XX:5:A:H2'	23:XX:6:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:277:C:H5'	24:YA:278:A:H5'	1.95	0.49
24:YA:532:A:N1	24:YA:2035:G:N2	2.60	0.49
24:YA:689:A:H2'	24:YA:690:G:H8	1.78	0.49
24:YA:1580:A:H5'	24:YA:1581:G:OP2	2.13	0.49
24:YA:1615:C:OP2	24:YA:1617:C:N4	2.33	0.49
24:YA:2294:C:OP2	37:YS:13:ARG:NH2	2.45	0.49
24:YA:2743:C:OP2	24:YA:2755:C:N4	2.46	0.49
26:YD:123:ALA:HB3	26:YD:131:LEU:HG	1.95	0.49
43:YY:48:ALA:HA	43:YY:60:PHE:HD2	1.77	0.49
1:QA:1287:A:H2	1:QA:1353:G:H1'	1.78	0.49
1:QA:1320:C:H42	19:QS:36:ARG:HB2	1.78	0.49
22:QV:44:G:H2'	22:QV:45:G:C8	2.47	0.49
24:RA:86:C:H4'	24:RA:104:U:H1'	1.95	0.49
24:RA:270(I):G:H2'	24:RA:270(J):G:C8	2.48	0.49
24:RA:969:U:H2'	24:RA:970:C:C6	2.48	0.49
24:RA:2584:U:H2'	24:RA:2585:U:H2'	1.95	0.49
1:XA:524:G:H2'	1:XA:525:C:C6	2.48	0.49
1:XA:628:G:H2'	1:XA:629:G:C8	2.48	0.49
1:XA:708:C:H2'	1:XA:709:G:H8	1.78	0.49
1:XA:1225:A:H5''	1:XA:1226:C:OP2	2.13	0.49
4:XD:88:VAL:HG22	4:XD:90:GLY:H	1.77	0.49
13:XM:78:ILE:HD11	13:XM:92:HIS:HB3	1.94	0.49
21:XU:8:THR:HG23	21:XU:11:GLY:H	1.78	0.49
24:YA:259:G:H21	24:YA:621:A:H8	1.60	0.49
24:YA:607:U:H3	24:YA:621:A:H2	1.61	0.49
24:YA:2318:G:H22	37:YS:2:ALA:HA	1.78	0.49
24:YA:2355:C:H1'	45:Y0:39:ARG:HH21	1.78	0.49
49:Y4:34:GLU:HG2	49:Y4:35:VAL:HG12	1.93	0.49
1:QA:41:G:H2'	1:QA:42:G:H8	1.77	0.48
1:QA:662:G:H2'	1:QA:663:A:C8	2.48	0.48
1:QA:924:C:O2'	1:QA:1502:A:N6	2.46	0.48
20:QT:51:GLU:O	20:QT:55:ILE:HG12	2.13	0.48
24:RA:640:C:H2'	24:RA:641:C:C6	2.48	0.48
24:RA:784:A:OP2	24:RA:2589:A:OP1	2.30	0.48
40:RV:57:VAL:HG12	40:RV:99:ILE:HG23	1.94	0.48
1:XA:119:A:C8	1:XA:288:A:C6	3.01	0.48
1:XA:191(G):G:C4	20:XT:105:SER:HB3	2.48	0.48
1:XA:427:U:OP2	1:XA:428:G:O2'	2.29	0.48
24:YA:2619:C:H5''	27:YE:152:LYS:HA	1.95	0.48
24:YA:2735:G:H2'	24:YA:2736:G:H8	1.78	0.48
32:YN:137:LYS:HD3	32:YN:138:LEU:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:346:G:H1'	1:QA:347:G:H5'	1.95	0.48
1:QA:1075:C:H5''	2:QB:179:LYS:NZ	2.28	0.48
24:RA:270:A:OP2	24:RA:270(Y):G:N1	2.46	0.48
24:RA:1593:G:H2'	24:RA:1594:G:C8	2.47	0.48
24:RA:2197:U:H1'	24:RA:2198:A:C8	2.48	0.48
24:RA:2469:A:H2'	35:RQ:56:ARG:HE	1.78	0.48
24:RA:2747:G:N2	24:RA:2757:A:H62	2.09	0.48
26:RD:90:ALA:HB3	26:RD:106:ILE:HD11	1.94	0.48
1:XA:41:G:H2'	1:XA:42:G:H8	1.78	0.48
1:XA:309:G:H2'	1:XA:310:G:H8	1.79	0.48
1:XA:693:G:H2'	1:XA:694:A:C8	2.48	0.48
4:XD:158:ILE:O	4:XD:162:LEU:HG	2.13	0.48
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.78	0.48
15:XO:70:LEU:HD21	15:XO:77:ARG:HG3	1.95	0.48
24:YA:1405:U:H2'	24:YA:1406:U:C6	2.47	0.48
24:YA:1438:U:H2'	24:YA:1439:A:H8	1.78	0.48
24:YA:1647:G:H3'	24:YA:1647:G:OP2	2.14	0.48
24:YA:2655:G:N2	24:YA:2665:A:OP2	2.47	0.48
29:YG:136:ARG:HG2	29:YG:137:GLU:H	1.78	0.48
1:QA:164:U:H2'	1:QA:165:C:C6	2.48	0.48
1:QA:539:A:H2'	1:QA:540:G:C8	2.48	0.48
2:QB:71:VAL:HA	2:QB:93:VAL:HB	1.95	0.48
9:QI:73:GLN:O	9:QI:77:ILE:HG12	2.13	0.48
10:QJ:30:SER:HB2	10:QJ:80:LYS:HG3	1.94	0.48
16:QP:67:THR:HG22	16:QP:68:ASP:H	1.78	0.48
24:RA:479:A:HO2'	24:RA:481:G:H8	1.60	0.48
24:RA:2306:C:H3'	24:RA:2307:G:H5''	1.95	0.48
24:RA:2431:U:N3	24:RA:2434:A:OP2	2.32	0.48
24:RA:2581:G:N2	24:RA:2581:G:OP2	2.46	0.48
24:RA:2701:C:H3'	24:RA:2702:U:C5'	2.44	0.48
33:RO:63:VAL:HG12	33:RO:106:LEU:HD21	1.94	0.48
34:RP:90:ARG:HG3	34:RP:91:PHE:HD1	1.79	0.48
38:RT:109:GLU:OE1	38:RT:112:ARG:NH1	2.46	0.48
1:XA:1230:C:H5'	22:XV:31:C:H5''	1.95	0.48
19:XS:3:ARG:HH12	19:XS:11:VAL:HG22	1.77	0.48
24:YA:270(I):G:H2'	24:YA:270(J):G:C8	2.47	0.48
24:YA:511:U:H5''	24:YA:1236:G:OP1	2.13	0.48
24:YA:675:A:N3	24:YA:2443:C:O2'	2.39	0.48
24:YA:918:A:N3	25:YB:80:U:O2'	2.44	0.48
24:YA:1853:A:N3	24:YA:2233:U:O2'	2.41	0.48
24:YA:1869:G:H5'	24:YA:1870:C:OP2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YD:147:LEU:HD21	26:YD:183:ARG:HH22	1.78	0.48
46:Y1:46:LEU:O	46:Y1:47:GLN:NE2	2.47	0.48
1:QA:552:U:H2'	1:QA:553:A:H8	1.78	0.48
1:QA:745:C:H2'	1:QA:746:A:C8	2.48	0.48
1:QA:745:C:H2'	1:QA:746:A:H8	1.78	0.48
1:QA:1043:C:H2'	1:QA:1044:A:H8	1.77	0.48
8:QH:12:ARG:HD2	8:QH:26:VAL:HG22	1.94	0.48
24:RA:995:C:O2	32:RN:3:THR:OG1	2.32	0.48
24:RA:1525:G:H2'	24:RA:1526:G:C8	2.48	0.48
24:RA:2452:C:H2'	24:RA:2453:A:C8	2.48	0.48
24:RA:2737:G:H2'	24:RA:2738:A:C8	2.47	0.48
1:XA:50:A:H1'	1:XA:52:G:C8	2.48	0.48
1:XA:430:A:P	4:XD:8:VAL:H	2.37	0.48
1:XA:590:C:OP1	8:XH:30:ARG:N	2.42	0.48
1:XA:748:C:H1'	1:XA:749:C:H5	1.79	0.48
1:XA:877:C:H2'	1:XA:878:G:C8	2.48	0.48
24:YA:210:C:H2'	24:YA:211:A:H8	1.77	0.48
24:YA:587:C:OP2	34:YP:21:ARG:NH1	2.30	0.48
24:YA:1408:C:H2'	24:YA:1409:C:C6	2.49	0.48
24:YA:1812:A:H2'	24:YA:1813:G:H8	1.79	0.48
24:YA:2001:A:H2'	24:YA:2002:G:C8	2.49	0.48
43:YY:47:LYS:NZ	43:YY:48:ALA:O	2.43	0.48
47:Y2:45:SER:O	47:Y2:46:GLN:NE2	2.46	0.48
1:QA:501:C:H2'	1:QA:502:G:C8	2.48	0.48
1:QA:639:G:H2'	1:QA:640:A:H8	1.77	0.48
1:QA:1047:G:H5''	14:QN:4:LYS:HD2	1.96	0.48
12:QL:110:VAL:O	12:QL:122:THR:OG1	2.28	0.48
22:QV:66:U:H2'	22:QV:67:A:H8	1.79	0.48
24:RA:116:C:O2'	24:RA:126:A:N3	2.42	0.48
24:RA:1411:C:H42	24:RA:1591:G:H1	1.62	0.48
24:RA:2514:U:H2'	24:RA:2515:C:C6	2.48	0.48
24:RA:2698:U:H2'	24:RA:2699:C:C6	2.48	0.48
24:RA:2784:C:O2'	27:RE:37:ARG:NH1	2.46	0.48
24:RA:2787:C:H1'	27:RE:62:PRO:HG3	1.94	0.48
29:RG:142:PRO:HB2	49:R4:31:ILE:HG21	1.95	0.48
37:RS:8:GLU:O	37:RS:11:LYS:HB3	2.14	0.48
1:XA:17:U:H2'	1:XA:18:C:C6	2.49	0.48
1:XA:343:U:O2	1:XA:346:G:N1	2.47	0.48
2:XB:76:GLN:HG2	2:XB:208:ILE:HG13	1.96	0.48
3:XC:83:ARG:O	3:XC:87:LEU:HG	2.14	0.48
24:YA:848:G:H2'	24:YA:849:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:956:G:OP2	35:YQ:14:ARG:NH2	2.46	0.48
24:YA:1243:G:H4'	34:YP:7:ARG:HH21	1.78	0.48
24:YA:1939:U:H3'	24:YA:1940:U:H5'	1.94	0.48
24:YA:2037:G:H2'	24:YA:2038:G:C8	2.47	0.48
24:YA:2515:C:H2'	24:YA:2516:G:H8	1.77	0.48
24:YA:2737:G:H2'	24:YA:2738:A:H8	1.79	0.48
28:YF:122:LYS:HB3	28:YF:191:ARG:HG3	1.94	0.48
34:YP:52:GLU:OE2	34:YP:58:THR:OG1	2.28	0.48
35:YQ:41:TRP:HB3	35:YQ:94:VAL:HG21	1.95	0.48
1:QA:563:A:O2'	1:QA:566:G:O3'	2.30	0.48
3:QC:157:ILE:HD13	3:QC:166:GLU:HG2	1.94	0.48
22:QV:59:A:O2'	22:QV:61:U:OP2	2.16	0.48
23:QX:11:A:H2'	23:QX:12:G:C8	2.48	0.48
24:RA:271(D):G:H2'	24:RA:272:G:C8	2.49	0.48
24:RA:271(D):G:H2'	24:RA:272:G:H8	1.78	0.48
24:RA:2627:G:N2	24:RA:2777:G:OP2	2.47	0.48
24:RA:2841:C:H2'	24:RA:2842:G:H8	1.79	0.48
29:RG:3:LEU:HD12	49:R4:25:TYR:HE2	1.79	0.48
1:XA:1244:C:OP2	21:XU:9:ARG:NE	2.47	0.48
24:YA:363(B):G:H2'	24:YA:363(C):G:H8	1.79	0.48
24:YA:578:A:OP1	24:YA:1255:U:O2'	2.28	0.48
24:YA:1754:C:OP1	38:YT:96:ARG:NH1	2.47	0.48
24:YA:2853:C:H2'	24:YA:2854:G:H8	1.78	0.48
26:YD:17:THR:HG22	26:YD:204:ILE:HD12	1.95	0.48
26:YD:72:LYS:HG3	26:YD:97:TYR:CE2	2.48	0.48
27:YE:26:ILE:HB	27:YE:182:LEU:HB3	1.95	0.48
29:YG:107:LEU:HD13	29:YG:111:LEU:HD12	1.96	0.48
30:YH:46:GLU:OE1	30:YH:51:ARG:NH1	2.47	0.48
1:QA:5:U:O2'	1:QA:6:G:O5'	2.32	0.48
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.79	0.48
1:QA:1367:C:H5'	10:QJ:60:ARG:NH1	2.28	0.48
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.78	0.48
5:QE:75:THR:HA	5:QE:115:VAL:HG13	1.95	0.48
7:QG:54:THR:HG22	7:QG:56:GLN:HG2	1.95	0.48
8:QH:36:LEU:HA	8:QH:39:LEU:HD12	1.94	0.48
10:QJ:38:ILE:HD12	10:QJ:39:PRO:HD2	1.96	0.48
24:RA:463:G:N2	24:RA:466:A:OP2	2.32	0.48
24:RA:514:A:N3	24:RA:581:C:O2'	2.39	0.48
24:RA:1295:C:H2'	24:RA:1296:G:H8	1.79	0.48
24:RA:2466:C:OP1	54:R9:4:ARG:HB2	2.14	0.48
25:RB:89:G:H2'	25:RB:89(A):A:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RI:26:ALA:HA	31:RI:30:LEU:HB2	1.95	0.48
37:RS:25:ARG:NH1	37:RS:42:ASP:OD2	2.46	0.48
1:XA:1291:G:H4'	9:XI:39:GLY:HA3	1.95	0.48
24:YA:270(R):G:H2'	24:YA:270(S):G:C8	2.48	0.48
24:YA:1403:C:H5''	24:YA:1471:A:H1'	1.96	0.48
24:YA:1939:U:OP1	24:YA:2604:U:O2'	2.32	0.48
24:YA:2341:G:H2'	24:YA:2342:C:C6	2.48	0.48
39:YU:91:ASP:O	39:YU:93:LYS:N	2.47	0.48
54:Y9:25:VAL:HB	54:Y9:34:GLN:HB2	1.95	0.48
1:QA:944:G:N1	1:QA:1338:G:OP2	2.44	0.48
1:QA:1314:C:OP2	19:QS:4:SER:OG	2.20	0.48
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.49	0.48
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.24	0.48
3:QC:11:ARG:O	3:QC:13:GLY:N	2.47	0.48
7:QG:23:VAL:HG13	7:QG:43:PHE:HE2	1.79	0.48
7:QG:27:ILE:HA	7:QG:30:ILE:HG22	1.96	0.48
24:RA:1546:C:H5'	24:RA:1547:C:H5'	1.95	0.48
25:RB:24:G:O6	25:RB:56:G:O2'	2.27	0.48
33:RO:47:ILE:O	33:RO:53:LYS:NZ	2.47	0.48
34:RP:52:GLU:OE2	34:RP:58:THR:OG1	2.32	0.48
37:RS:15:ARG:NE	37:RS:88:ASP:OD1	2.46	0.48
37:RS:109:GLY:O	37:RS:110:LEU:HG	2.14	0.48
3:XC:9:GLY:HA2	3:XC:12:LEU:HG	1.96	0.48
3:XC:172:ARG:HG3	3:XC:174:PRO:HD3	1.94	0.48
7:XG:29:LYS:HG3	7:XG:105:VAL:HG11	1.96	0.48
24:YA:746:A:HO2'	24:YA:2611:U:HO2'	1.56	0.48
24:YA:1794:U:H2'	24:YA:1795:C:H6	1.78	0.48
24:YA:2420:C:H5'	51:Y6:54:ILE:HD11	1.96	0.48
28:YF:63:LYS:NZ	28:YF:75:HIS:O	2.39	0.48
1:QA:977:A:N6	1:QA:1224:G:OP1	2.47	0.48
1:QA:1407:C:H2'	1:QA:1408:A:H8	1.78	0.48
13:QM:37:THR:HG21	13:QM:56:LEU:HA	1.96	0.48
24:RA:1359:A:OP2	24:RA:1371:G:N2	2.43	0.48
24:RA:1416:G:H2'	24:RA:1417:C:C6	2.49	0.48
24:RA:2707:G:H2'	24:RA:2708:G:H8	1.78	0.48
47:R2:10:LEU:HG	47:R2:14:ARG:HE	1.79	0.48
4:XD:96:LEU:HD13	4:XD:139:ARG:HE	1.79	0.48
10:XJ:84:GLN:HA	10:XJ:88:LEU:HD13	1.96	0.48
11:XK:57:THR:HG22	11:XK:59:TYR:H	1.79	0.48
24:YA:270(H):C:H2'	24:YA:270(I):G:C8	2.48	0.48
24:YA:385:C:O2'	24:YA:388:G:N2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1252:G:N2	39:YU:37:GLU:OE2	2.44	0.48
24:YA:1754:C:N3	24:YA:2716:U:O2'	2.46	0.48
24:YA:2071:A:H2'	24:YA:2072:G:H8	1.79	0.48
24:YA:2773:C:OP1	27:YE:164:ARG:NE	2.40	0.48
25:YB:30:C:O2'	25:YB:57:A:N1	2.45	0.48
29:YG:58:GLN:O	29:YG:62:LEU:HG	2.13	0.48
44:YZ:128:VAL:HG23	44:YZ:161:VAL:HG22	1.96	0.48
2:QB:33:TYR:HB3	2:QB:41:ILE:HG13	1.95	0.48
2:QB:169:LYS:NZ	2:QB:191:ASP:OD2	2.46	0.48
24:RA:37:C:H2'	24:RA:38:A:H8	1.79	0.48
24:RA:1590:U:H2'	24:RA:1591:G:C8	2.49	0.48
24:RA:1651:G:H4'	36:RR:39:PRO:HG2	1.95	0.48
24:RA:2642:G:H5'	32:RN:78:TYR:CD2	2.49	0.48
26:RD:25:THR:HG22	26:RD:82:ILE:H	1.78	0.48
30:RH:79:VAL:HG12	30:RH:136:ILE:HD11	1.96	0.48
44:RZ:54:HIS:HB3	44:RZ:101:PRO:HD3	1.95	0.48
1:XA:352:C:O2'	1:XA:354:G:OP1	2.20	0.48
1:XA:656:C:O2	15:XO:28:GLN:NE2	2.45	0.48
14:YN:39:LEU:HD12	14:YN:44:LEU:HB3	1.95	0.48
17:XQ:4:LYS:NZ	17:XQ:5:VAL:O	2.46	0.48
18:XR:74:ARG:HD3	18:XR:81:PHE:HA	1.96	0.48
24:YA:1186:G:H2'	24:YA:1187:G:O4'	2.14	0.48
1:QA:559:A:H4'	1:QA:560:U:H3'	1.96	0.47
1:QA:1024:G:H4'	1:QA:1024:G:OP1	2.14	0.47
13:QM:31:LYS:HD3	13:QM:34:LEU:HD21	1.95	0.47
23:QX:8:A:H2'	23:QX:9:G:C8	2.49	0.47
24:RA:1454:U:O2'	24:RA:1455:G:N7	2.43	0.47
24:RA:1646:C:H5''	24:RA:1647:G:H5''	1.95	0.47
33:RO:88:ASN:OD1	33:RO:92:GLU:N	2.39	0.47
1:XA:324:G:OP1	20:XT:22:ARG:NE	2.46	0.47
1:XA:627:G:H2'	1:XA:628:G:C8	2.49	0.47
6:XF:27:GLN:O	6:XF:30:LEU:HG	2.13	0.47
9:XI:21:PRO:HA	9:XI:59:PHE:HA	1.96	0.47
14:YN:4:LYS:HA	14:YN:7:ILE:HG12	1.96	0.47
24:YA:14:A:H8	24:YA:14:A:O5'	1.97	0.47
24:YA:662:G:H2'	24:YA:663:G:H8	1.79	0.47
24:YA:1310:G:OP2	52:Y7:9:ARG:NE	2.34	0.47
24:YA:2070:G:H2'	24:YA:2071:A:H8	1.77	0.47
24:YA:2693:A:H2'	24:YA:2694:G:H8	1.79	0.47
37:YS:34:HIS:ND1	37:YS:53:SER:OG	2.39	0.47
1:QA:181:G:HO2'	1:QA:182:U:P	2.36	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:263:A:OP1	20:QT:79:ARG:NH1	2.47	0.47
1:QA:1355:G:H2'	1:QA:1356:G:H8	1.78	0.47
1:QA:1512:U:H2'	1:QA:1513:A:C8	2.49	0.47
11:QK:62:GLN:HG3	11:QK:93:GLN:HB3	1.96	0.47
24:RA:37:C:H2'	24:RA:38:A:C8	2.49	0.47
24:RA:2319:G:N1	24:RA:2334:G:OP2	2.41	0.47
26:RD:148:GLU:HB2	26:RD:151:LYS:HD2	1.97	0.47
1:XA:509:A:N3	1:XA:543:C:O2'	2.38	0.47
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.95	0.47
24:YA:251:A:C5	24:YA:252:G:H1'	2.49	0.47
24:YA:1140:C:OP2	32:YN:66:LYS:NZ	2.42	0.47
24:YA:2698:U:H2'	24:YA:2699:C:C6	2.49	0.47
27:YE:23:VAL:HG12	27:YE:173:VAL:HG21	1.95	0.47
27:YE:176:ILE:HB	27:YE:181:LEU:HB2	1.96	0.47
34:YP:47:ASP:OD2	34:YP:50:ARG:NH2	2.47	0.47
42:YX:5:TYR:HD2	47:Y2:29:LYS:HB2	1.79	0.47
50:Y5:49:CYS:O	50:Y5:56:LYS:HE2	2.14	0.47
1:QA:244:U:H4'	1:QA:245:C:O5'	2.14	0.47
1:QA:437:U:H2'	1:QA:438:G:O4'	2.14	0.47
1:QA:1009:G:H1	1:QA:1020:U:H3	1.62	0.47
1:QA:1352:C:H2'	1:QA:1353:G:C8	2.49	0.47
19:QS:64:GLU:OE1	49:R4:58:ARG:NH1	2.47	0.47
24:RA:729:G:OP2	26:RD:13:ARG:HD3	2.15	0.47
24:RA:729:G:O2'	24:RA:763:G:H4'	2.14	0.47
24:RA:1525:G:H2'	24:RA:1526:G:H8	1.80	0.47
24:RA:2832:U:H4'	24:RA:2833:G:H5''	1.97	0.47
25:RB:111:U:H2'	25:RB:112:G:H8	1.79	0.47
28:RF:116:ASP:OD2	34:RP:1:MET:N	2.34	0.47
1:XA:316:G:OP2	1:XA:351:G:O2'	2.23	0.47
1:XA:407:G:H2'	1:XA:408:A:C8	2.49	0.47
2:XB:235:SER:O	2:XB:237:ALA:N	2.45	0.47
5:XE:10:MET:HB3	5:XE:32:VAL:HG12	1.96	0.47
14:XN:24:CYS:HB2	14:XN:27:CYS:SG	2.54	0.47
24:YA:38:A:H2'	24:YA:39:C:C6	2.50	0.47
24:YA:270(V):G:H2'	24:YA:270(W):G:H8	1.80	0.47
24:YA:439:G:H2'	24:YA:440:G:C8	2.49	0.47
24:YA:617:G:OP1	28:YF:40:GLN:NE2	2.47	0.47
24:YA:689:A:H2'	24:YA:690:G:C8	2.50	0.47
24:YA:831:G:O2'	34:YP:38:GLN:OE1	2.32	0.47
24:YA:1882:C:H3'	24:YA:1883:G:H8	1.79	0.47
24:YA:2610:C:H4'	24:YA:2611:U:OP2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2728:U:H2'	24:YA:2729:G:C8	2.49	0.47
29:YG:65:GLY:HA3	49:Y4:9:LEU:HD21	1.95	0.47
44:YZ:45:ASP:OD1	44:YZ:49:ARG:NE	2.47	0.47
1:QA:481:G:O2'	1:QA:482:A:O5'	2.33	0.47
1:QA:1034:G:H2'	1:QA:1035:A:C8	2.50	0.47
1:QA:1223:C:P	1:QA:1224:G:H2'	2.55	0.47
3:QC:20:SER:OG	3:QC:22:TRP:NE1	2.46	0.47
7:QG:72:ARG:O	7:QG:91:VAL:HG12	2.13	0.47
8:QH:49:GLU:OE2	8:QH:62:TYR:OH	2.27	0.47
11:QK:43:SER:HB3	11:QK:68:ALA:HB2	1.95	0.47
17:QQ:43:LEU:HD21	17:QQ:68:ARG:HH21	1.79	0.47
24:RA:121:G:H4'	24:RA:149:A:H5'	1.96	0.47
24:RA:746:A:O2'	24:RA:2611:U:O2'	2.30	0.47
24:RA:834:C:H2'	24:RA:835:A:C8	2.48	0.47
24:RA:1278:A:H2'	24:RA:1279:G:H8	1.78	0.47
24:RA:1309:G:HO2'	24:RA:1611:C:HO2'	1.62	0.47
24:RA:1686:C:H3'	24:RA:1687:G:H8	1.79	0.47
24:RA:2522:U:H3	24:RA:2543:G:H1	1.62	0.47
28:RF:200:GLU:OE2	28:RF:200:GLU:N	2.43	0.47
29:RG:83:ARG:HD2	29:RG:84:LYS:H	1.79	0.47
1:XA:45:U:H2'	1:XA:46:G:H8	1.80	0.47
1:XA:922:G:H2'	1:XA:923:A:C8	2.50	0.47
4:XD:138:TYR:OH	4:XD:141:ARG:NH2	2.47	0.47
7:XG:75:VAL:HA	7:XG:88:PRO:HA	1.96	0.47
13:XM:91:ARG:HH11	13:XM:96:LEU:HD22	1.79	0.47
24:YA:249:C:H5'	24:YA:2394:C:O2'	2.15	0.47
24:YA:1283:G:N2	24:YA:1286:A:OP2	2.47	0.47
24:YA:2692:C:H2'	24:YA:2693:A:H8	1.79	0.47
27:YE:38:THR:OG1	27:YE:40:GLU:OE1	2.31	0.47
52:Y7:13:ALA:HB2	52:Y7:46:VAL:HG11	1.97	0.47
1:QA:398:C:H2'	1:QA:399:G:H8	1.79	0.47
4:QD:127:THR:HA	4:QD:132:ARG:HA	1.97	0.47
5:QE:98:THR:HB	5:QE:117:ASP:HB3	1.96	0.47
11:QK:21:ILE:HB	11:QK:84:VAL:HG23	1.96	0.47
12:QL:32:PHE:HD2	12:QL:86:ARG:HA	1.80	0.47
24:RA:593:G:H2'	24:RA:594:U:C6	2.50	0.47
24:RA:639:U:H2'	24:RA:640:C:C6	2.50	0.47
24:RA:678:C:H2'	24:RA:679:C:C6	2.49	0.47
24:RA:796:C:H2'	24:RA:797:C:C6	2.49	0.47
24:RA:1427:A:H4'	24:RA:1428:C:O5'	2.14	0.47
24:RA:2246:G:H2'	24:RA:2247:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2327:A:H2'	24:RA:2328:A:C8	2.49	0.47
28:RF:102:PRO:HB2	28:RF:105:VAL:HG23	1.96	0.47
28:RF:125:LEU:HA	28:RF:194:MET:O	2.15	0.47
32:RN:26:LEU:O	32:RN:30:ILE:HG13	2.14	0.47
1:XA:501:C:H2'	1:XA:502:G:C8	2.49	0.47
1:XA:950:U:H2'	1:XA:951:G:H8	1.79	0.47
1:XA:1287:A:H2	1:XA:1353:G:H1'	1.77	0.47
2:XB:16:HIS:HD2	2:XB:210:SER:HA	1.80	0.47
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.96	0.47
24:YA:363(D):G:H2'	24:YA:363(E):U:C6	2.49	0.47
24:YA:949:C:H2'	24:YA:950:G:C8	2.50	0.47
24:YA:2514:U:H2'	24:YA:2515:C:C6	2.50	0.47
53:Y8:29:LYS:H	53:Y8:29:LYS:HG2	1.44	0.47
1:QA:171:A:H2'	1:QA:172:A:C8	2.50	0.47
1:QA:323:U:H2'	1:QA:324:G:O4'	2.15	0.47
24:RA:439:G:H2'	24:RA:440:G:C8	2.50	0.47
24:RA:489:G:N2	24:RA:1321:A:OP1	2.48	0.47
24:RA:534:U:H2'	24:RA:535:C:C6	2.50	0.47
24:RA:823:G:H2'	24:RA:824:A:H8	1.79	0.47
24:RA:1509:C:H3'	24:RA:1510:A:H4'	1.96	0.47
27:RE:36:ARG:NH1	27:RE:85:ASN:OD1	2.44	0.47
1:XA:486:U:H2'	1:XA:487:A:C8	2.49	0.47
1:XA:489:C:H2'	1:XA:490:G:H8	1.79	0.47
24:YA:414:C:H2'	24:YA:415:A:H8	1.80	0.47
24:YA:459:U:H2'	24:YA:460:A:H8	1.79	0.47
24:YA:680:G:H2'	24:YA:681:G:C8	2.49	0.47
24:YA:724:U:H2'	24:YA:725:G:O4'	2.14	0.47
24:YA:1149:G:H2'	24:YA:1150:C:C6	2.50	0.47
24:YA:1157:G:C2'	24:YA:1158:C:H5'	2.45	0.47
24:YA:1427:A:H4'	24:YA:1428:C:O5'	2.13	0.47
24:YA:2340:G:H2'	24:YA:2341:G:H8	1.80	0.47
24:YA:2475:C:H42	24:YA:2529:G:H22	1.62	0.47
27:YE:20:ALA:N	33:YO:72:PRO:O	2.41	0.47
31:YI:79:ILE:HB	31:YI:142:VAL:HA	1.94	0.47
38:YT:123:GLN:O	38:YT:125:ARG:N	2.47	0.47
1:QA:426:G:OP1	4:QD:38:TYR:OH	2.25	0.47
1:QA:647:C:H2'	1:QA:648:A:H8	1.79	0.47
13:QM:87:TYR:HB3	19:QS:73:GLU:HG3	1.97	0.47
24:RA:13:A:O2'	24:RA:15:G:N7	2.47	0.47
24:RA:281:G:H21	24:RA:359:A:H62	1.61	0.47
24:RA:699:A:H62	24:RA:733:G:H21	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:923:C:H2'	24:RA:924:C:C6	2.50	0.47
24:RA:1062:G:H2'	24:RA:1063:G:C8	2.49	0.47
24:RA:1114:G:H2'	24:RA:1115:G:C8	2.50	0.47
24:RA:1116:C:H2'	24:RA:1117:G:H8	1.80	0.47
24:RA:2156:G:O6	24:RA:2157:G:N2	2.43	0.47
24:RA:2500:U:O2'	24:RA:2504:U:OP1	2.27	0.47
24:RA:2749:A:OP2	24:RA:2750:A:O2'	2.24	0.47
24:RA:2836:U:H2'	24:RA:2837:G:C8	2.49	0.47
36:RR:104:ARG:HE	36:RR:111:LEU:HD21	1.80	0.47
46:R1:60:PHE:HE1	46:R1:87:PRO:HG3	1.80	0.47
1:XA:324:G:H5''	20:XT:70:SER:CB	2.45	0.47
1:XA:377:G:H2'	1:XA:378:G:C8	2.50	0.47
1:XA:438:G:H4'	4:XD:123:HIS:CG	2.50	0.47
1:XA:452:A:N6	1:XA:480:U:C2	2.79	0.47
1:XA:685:G:OP1	11:XK:11:LYS:NZ	2.46	0.47
1:XA:891:U:H2'	1:XA:892:A:H8	1.80	0.47
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.80	0.47
17:XQ:19:VAL:O	17:XQ:44:ALA:N	2.40	0.47
24:YA:363:G:H2'	24:YA:363(A):A:H8	1.79	0.47
24:YA:924:C:H2'	24:YA:925:C:C6	2.49	0.47
24:YA:1028:A:H2'	24:YA:1029:A:C8	2.49	0.47
24:YA:1165:U:H2'	24:YA:1166:C:C6	2.49	0.47
24:YA:2040:C:H2'	24:YA:2041:U:C6	2.50	0.47
27:YE:50:GLY:HA2	27:YE:77:ILE:HA	1.97	0.47
31:YI:76:THR:OG1	31:YI:139:GLN:NE2	2.44	0.47
32:YN:7:LYS:HD3	32:YN:8:GLN:H	1.79	0.47
32:YN:58:ASP:OD1	32:YN:58:ASP:N	2.42	0.47
33:YO:28:SER:OG	33:YO:29:ASN:N	2.48	0.47
39:YU:28:ARG:NH1	39:YU:38:THR:OG1	2.44	0.47
1:QA:707:C:H4'	11:QK:20:TYR:CD2	2.50	0.47
1:QA:1250:A:H2	1:QA:1370:G:H1'	1.80	0.47
9:QI:32:ASP:HB3	9:QI:35:GLU:HG2	1.97	0.47
12:QL:32:PHE:CD2	12:QL:86:ARG:HA	2.50	0.47
24:RA:550:G:H2'	24:RA:551:G:H8	1.80	0.47
24:RA:2051:A:H5'	24:RA:2578:G:O4'	2.14	0.47
24:RA:2100:G:H2'	24:RA:2101:G:C8	2.49	0.47
24:RA:2233:U:H2'	24:RA:2234:G:C8	2.50	0.47
24:RA:2591:C:H2'	24:RA:2592:G:C8	2.50	0.47
24:RA:2591:C:H2'	24:RA:2592:G:H8	1.79	0.47
24:RA:2857:G:N2	24:RA:2860:A:OP2	2.38	0.47
1:XA:596:C:OP2	1:XA:597:G:OP2	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1463:C:H2'	1:XA:1464:G:H8	1.79	0.47
24:YA:264:C:C2'	24:YA:265:A:H5''	2.44	0.47
24:YA:271(D):G:H2'	24:YA:272:G:C8	2.50	0.47
24:YA:358:U:H2'	24:YA:359:A:C8	2.49	0.47
24:YA:2061:G:H5''	24:YA:2503:A:C2	2.50	0.47
24:YA:2099:U:O2	24:YA:2190:G:N2	2.40	0.47
24:YA:2115:G:N2	24:YA:2164:C:OP2	2.47	0.47
26:YD:16:MET:HG3	26:YD:207:GLY:HA3	1.97	0.47
1:QA:1043:C:H2'	1:QA:1044:A:C8	2.50	0.47
1:QA:1238:A:H62	1:QA:1301:U:H3	1.62	0.47
1:QA:1371:G:OP1	9:QI:11:LYS:NZ	2.41	0.47
6:QF:47:ARG:NH2	6:QF:56:PRO:O	2.48	0.47
10:QJ:41:PRO:HG2	10:QJ:43:ARG:HH12	1.80	0.47
24:RA:29:U:H2'	24:RA:30:G:C8	2.48	0.47
24:RA:186:G:H2'	24:RA:187:G:H8	1.79	0.47
24:RA:634:C:H2'	24:RA:635:C:C6	2.49	0.47
24:RA:907:U:O2'	35:RQ:101:ARG:NH2	2.45	0.47
24:RA:2130:U:H2'	24:RA:2131:G:C8	2.49	0.47
38:RT:124:ASP:OD2	38:RT:124:ASP:N	2.48	0.47
47:R2:9:GLN:HE22	47:R2:60:LEU:HD21	1.78	0.47
1:XA:677:U:O2	1:XA:777:A:O2'	2.33	0.47
1:XA:762:C:H2'	1:XA:763:G:H8	1.78	0.47
1:XA:1253:G:H4'	10:XJ:46:ARG:NH1	2.29	0.47
2:XB:145:LEU:HD13	2:XB:145:LEU:HA	1.54	0.47
24:YA:532:A:H4'	24:YA:533:G:C8	2.50	0.47
24:YA:1826:G:OP1	26:YD:224:ALA:N	2.46	0.47
24:YA:2502:G:H5''	24:YA:2503:A:H5''	1.97	0.47
24:YA:2804:C:H2'	24:YA:2805:G:C8	2.50	0.47
24:YA:2853:C:H2'	24:YA:2854:G:C8	2.49	0.47
36:YR:38:VAL:HG12	36:YR:112:ALA:HB2	1.97	0.47
40:YV:23:GLU:OE2	40:YV:89:GLN:NE2	2.40	0.47
40:YV:52:VAL:O	40:YV:53:GLU:HG2	2.15	0.47
1:QA:1066:C:H3'	1:QA:1067:A:C8	2.50	0.47
1:QA:1329:A:N7	21:QU:7:ARG:NH2	2.61	0.47
13:QM:16:ASP:N	13:QM:16:ASP:OD1	2.47	0.47
24:RA:576:U:OP1	24:RA:2503:A:OP1	2.32	0.47
24:RA:674:G:H1'	28:RF:74:ARG:HD3	1.97	0.47
24:RA:1167:U:H2'	24:RA:1168:G:H8	1.79	0.47
25:RB:77:U:P	44:RZ:19:ARG:HH22	2.38	0.47
26:RD:158:ALA:O	26:RD:196:VAL:HG21	2.15	0.47
37:RS:83:LYS:HE2	37:RS:109:GLY:HA3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:287:U:H2'	1:XA:288:A:H8	1.80	0.47
1:XA:552:U:H2'	1:XA:553:A:C8	2.50	0.47
1:XA:745:C:OP1	1:XA:851:G:O2'	2.33	0.47
5:XE:135:THR:O	5:XE:139:LEU:HG	2.15	0.47
24:YA:270(R):G:H2'	24:YA:270(S):G:H8	1.80	0.47
24:YA:305:U:H2'	24:YA:306:U:C6	2.50	0.47
24:YA:441:U:H2'	24:YA:442:G:C8	2.50	0.47
24:YA:634:C:H2'	24:YA:635:C:C6	2.50	0.47
24:YA:2306:C:H2'	24:YA:2307:G:N2	2.30	0.47
24:YA:2749:A:OP1	30:YH:4:ILE:HG23	2.15	0.47
24:YA:2808:U:C2	24:YA:2892:A:N6	2.83	0.47
45:Y0:27:GLU:HG3	45:Y0:68:GLU:HA	1.96	0.47
1:QA:318:G:H2'	1:QA:319:G:H8	1.79	0.46
1:QA:782:A:H62	1:QA:800:G:N2	2.10	0.46
1:QA:790:A:H2'	1:QA:791:G:C8	2.49	0.46
1:QA:1325:C:H4'	21:QU:17:THR:HG21	1.97	0.46
3:QC:62:ASP:O	3:QC:97:LYS:HB3	2.15	0.46
4:QD:64:LEU:HD12	4:QD:198:VAL:HG11	1.97	0.46
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.80	0.46
24:RA:84:A:OP2	43:RY:97:ARG:NH2	2.48	0.46
24:RA:575:A:OP2	24:RA:2499:C:O2'	2.27	0.46
24:RA:822:U:H2'	24:RA:823:G:C8	2.50	0.46
24:RA:1050:A:H2'	24:RA:1051:G:O4'	2.15	0.46
24:RA:1141:U:H1'	24:RA:1142(A):A:C6	2.50	0.46
24:RA:1666:G:N3	33:RO:3:GLN:NE2	2.63	0.46
24:RA:2025:C:H2'	24:RA:2026:C:C6	2.49	0.46
24:RA:2102:U:H2'	24:RA:2103:C:C6	2.50	0.46
24:RA:2291:U:O2'	24:RA:2374:C:O2	2.33	0.46
26:RD:247:ALA:HA	26:RD:253:GLN:HA	1.96	0.46
43:RY:77:PRO:HD3	43:RY:106:LEU:HD13	1.97	0.46
1:XA:1279:A:O2'	1:XA:1282:C:N4	2.49	0.46
2:XB:12:GLU:N	2:XB:12:GLU:OE2	2.48	0.46
4:XD:105:VAL:HG23	4:XD:117:ALA:HB1	1.97	0.46
6:XF:25:ILE:O	6:XF:28:ARG:HG3	2.15	0.46
24:YA:86:C:H4'	24:YA:104:U:H1'	1.97	0.46
24:YA:1136:G:H2'	24:YA:1137:G:C8	2.50	0.46
24:YA:1824:G:N3	26:YD:254:THR:OG1	2.47	0.46
25:YB:31:C:O2'	25:YB:53:A:N1	2.43	0.46
29:YG:109:VAL:HG13	49:Y4:33:VAL:HG21	1.98	0.46
1:QA:737:A:H2'	1:QA:738:C:C6	2.49	0.46
1:QA:1111:A:N1	3:QC:177:THR:HG22	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:46:LYS:HG3	12:QL:48:PRO:HD3	1.97	0.46
24:RA:44:A:H2'	24:RA:45:G:C8	2.50	0.46
24:RA:1539:G:H2'	24:RA:1540:G:H8	1.81	0.46
24:RA:2023:G:H5'	24:RA:2617:C:H4'	1.97	0.46
24:RA:2245:U:C5'	24:RA:2246:G:H5'	2.42	0.46
24:RA:2461:C:H2'	24:RA:2462:U:C6	2.50	0.46
24:RA:2471:C:H3'	24:RA:2472:G:H8	1.80	0.46
24:RA:2870:C:H2'	24:RA:2871:C:O4'	2.15	0.46
1:XA:280:C:H3'	1:XA:281:G:H5'	1.97	0.46
1:XA:851:G:H2'	1:XA:852:G:C8	2.50	0.46
13:XM:13:LYS:HB3	13:XM:44:ARG:HH21	1.80	0.46
24:YA:363(B):G:H2'	24:YA:363(C):G:C8	2.51	0.46
24:YA:1055:G:O2'	24:YA:1085:A:N1	2.39	0.46
24:YA:2443:C:H2'	24:YA:2444:G:H8	1.79	0.46
24:YA:2816:C:H2'	24:YA:2817:G:H8	1.80	0.46
1:QA:664:G:H22	1:QA:741:G:H1	1.62	0.46
24:RA:226:G:H2'	24:RA:227:A:C8	2.51	0.46
24:RA:232:G:OP2	24:RA:232:G:H8	1.99	0.46
24:RA:1084:A:H5''	24:RA:1085:A:C8	2.50	0.46
24:RA:2361:A:O5'	53:R8:27:THR:OG1	2.33	0.46
33:RO:98:VAL:HG12	33:RO:117:LEU:HB3	1.97	0.46
1:XA:92:G:H2'	1:XA:93:U:C2	2.50	0.46
1:XA:188:U:H2'	1:XA:189:U:H5''	1.98	0.46
1:XA:1151:A:H2'	1:XA:1152:A:H8	1.79	0.46
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.50	0.46
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.97	0.46
5:XE:105:VAL:HG13	5:XE:106:PRO:HD3	1.96	0.46
5:XE:137:GLU:OE1	5:XE:140:ARG:NH1	2.48	0.46
10:XJ:79:ARG:HE	10:XJ:82:ILE:HD12	1.80	0.46
11:XK:17:GLY:HA2	11:XK:35:PRO:HD3	1.97	0.46
24:YA:857:C:OP1	45:Y0:69:PHE:HD2	1.99	0.46
24:YA:2199:A:OP1	46:Y1:50:ARG:NH2	2.48	0.46
26:YD:44:ASN:HB3	26:YD:49:ILE:HA	1.97	0.46
28:YF:77:ASP:OD1	28:YF:77:ASP:N	2.46	0.46
1:QA:711:G:H2'	1:QA:712:A:H8	1.79	0.46
24:RA:65:C:H2'	24:RA:66:C:H6	1.80	0.46
24:RA:414:C:H2'	24:RA:415:A:C8	2.50	0.46
24:RA:1654:A:P	36:RR:2:ARG:HG2	2.56	0.46
24:RA:1657:C:O3'	27:RE:133:LYS:CG	2.48	0.46
24:RA:2572:A:H2'	27:RE:144:ARG:HD3	1.97	0.46
24:RA:2693:A:H2'	24:RA:2694:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RD:72:LYS:HG3	26:RD:97:TYR:CE2	2.51	0.46
29:RG:31:VAL:O	29:RG:33:ARG:NH1	2.40	0.46
1:XA:22:G:H2'	1:XA:23:C:C6	2.51	0.46
1:XA:753:A:H4'	1:XA:754:C:O5'	2.14	0.46
24:YA:767:U:H2'	24:YA:768:G:H8	1.81	0.46
24:YA:1353:A:H2'	24:YA:1354:A:C8	2.50	0.46
24:YA:2612:C:OP2	50:Y5:2:ALA:N	2.48	0.46
27:YE:49:LEU:HA	27:YE:49:LEU:HD12	1.71	0.46
36:YR:56:LYS:HE3	36:YR:88:ARG:HA	1.98	0.46
40:YV:38:LEU:HD11	40:YV:57:VAL:HG12	1.97	0.46
1:QA:328:C:H4'	1:QA:329:A:H5'	1.97	0.46
1:QA:703:G:H4'	1:QA:704:A:O5'	2.14	0.46
1:QA:735:C:H5'	18:QR:71:LYS:HE3	1.98	0.46
2:QB:178:ARG:HA	2:QB:178:ARG:HD3	1.69	0.46
13:QM:92:HIS:CE1	13:QM:98:VAL:HG21	2.50	0.46
24:RA:511:U:H4'	24:RA:1235:G:H4'	1.97	0.46
24:RA:526:A:OP1	24:RA:527:C:OP1	2.33	0.46
24:RA:638:G:H2'	24:RA:639:U:C6	2.50	0.46
24:RA:1539:G:H2'	24:RA:1540:G:C8	2.51	0.46
24:RA:2246:G:H2'	24:RA:2247:A:C8	2.51	0.46
40:RV:38:LEU:HD21	40:RV:57:VAL:HG13	1.96	0.46
1:XA:712:A:H2'	1:XA:713:G:C8	2.50	0.46
1:XA:1101:A:N6	2:XB:176:GLU:OE2	2.48	0.46
8:XH:9:MET:O	8:XH:13:ILE:HG12	2.15	0.46
24:YA:809:G:H2'	24:YA:810:U:C6	2.50	0.46
24:YA:1012:U:H2'	24:YA:1013:C:OP2	2.14	0.46
24:YA:2461:C:H2'	24:YA:2462:U:C6	2.50	0.46
40:YV:24:LYS:HA	40:YV:92:THR:HG23	1.96	0.46
1:QA:973:G:H3'	1:QA:974:A:H5'	1.96	0.46
1:QA:1014:A:H2'	1:QA:1015:A:C8	2.50	0.46
1:QA:1287:A:H2'	1:QA:1288:A:H8	1.80	0.46
3:QC:59:ARG:NH1	3:QC:62:ASP:H	2.12	0.46
10:QJ:13:HIS:HA	10:QJ:16:LEU:HB2	1.98	0.46
24:RA:23:G:OP1	24:RA:504:U:N3	2.40	0.46
24:RA:380:U:H2'	24:RA:381:G:C8	2.50	0.46
24:RA:514:A:H2'	24:RA:515:A:C8	2.51	0.46
24:RA:1297:C:H2'	24:RA:1298:C:H6	1.81	0.46
24:RA:2086:U:H2'	24:RA:2087:G:C8	2.51	0.46
24:RA:2341:G:H2'	24:RA:2342:C:C6	2.50	0.46
45:R0:18:ALA:O	45:R0:20:ARG:NH1	2.44	0.46
1:XA:79:G:H2'	1:XA:80:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:755:G:OP2	15:XO:65:ARG:HD2	2.15	0.46
1:XA:1055:A:H62	1:XA:1200:C:H42	1.63	0.46
11:XK:86:GLY:N	11:XK:112:THR:OG1	2.46	0.46
24:YA:195:A:H5''	24:YA:196:A:O5'	2.16	0.46
24:YA:1333:C:H2'	24:YA:1334:G:H8	1.81	0.46
29:YG:81:LYS:O	29:YG:82:LEU:HB2	2.15	0.46
51:Y6:11:LEU:HB2	51:Y6:21:TYR:HB2	1.98	0.46
22:XV:54:G:O2'	22:XV:55:U:O5'	2.30	0.46
1:QA:348:G:H2'	1:QA:349:A:H8	1.80	0.46
1:QA:539:A:H2'	1:QA:540:G:H8	1.81	0.46
1:QA:1479:C:H2'	1:QA:1480:G:C8	2.51	0.46
2:QB:73:THR:O	2:QB:78:GLN:NE2	2.44	0.46
24:RA:1173:G:N2	24:RA:1175:U:O4	2.47	0.46
24:RA:1590:U:H2'	24:RA:1591:G:H8	1.80	0.46
31:RI:74:ASN:OD1	31:RI:74:ASN:N	2.47	0.46
47:R2:18:PRO:HA	47:R2:21:LEU:HB2	1.98	0.46
49:R4:40:HIS:CE1	49:R4:42:PHE:HB3	2.50	0.46
1:XA:36:C:H2'	1:XA:37:U:O4'	2.15	0.46
1:XA:312:C:H2'	1:XA:313:A:C8	2.51	0.46
1:XA:464:G:C6	1:XA:466:C:H5'	2.50	0.46
2:XB:192:SER:OG	2:XB:193:ASP:N	2.49	0.46
12:XL:89:ARG:HD2	12:XL:97:ARG:HA	1.97	0.46
15:XO:7:GLU:HA	15:XO:10:LYS:HD3	1.98	0.46
24:YA:1499:C:H2'	24:YA:1500:G:H8	1.81	0.46
24:YA:2086:U:H2'	24:YA:2087:G:C8	2.50	0.46
28:YF:32:LEU:HD11	28:YF:105:VAL:HG13	1.97	0.46
47:Y2:28:LYS:HD2	47:Y2:53:LEU:HD11	1.98	0.46
1:QA:224:C:H2'	1:QA:225:C:C6	2.51	0.46
24:RA:64:A:O3'	42:RX:71:GLY:HA3	2.16	0.46
24:RA:1326:U:HO2'	24:RA:2010:G:HO2'	1.63	0.46
24:RA:1819:A:H4'	24:RA:1820:U:O5'	2.16	0.46
24:RA:2365:G:OP1	45:R0:55:ARG:HD2	2.16	0.46
24:RA:2630:G:H2'	24:RA:2631:G:C8	2.50	0.46
39:RU:90:VAL:HG13	40:RV:39:LEU:HD22	1.97	0.46
1:XA:173:U:H5''	1:XA:197:A:O4'	2.15	0.46
1:XA:359:U:H5	1:XA:359:U:OP2	1.99	0.46
1:XA:711:G:H2'	1:XA:712:A:C8	2.51	0.46
20:XT:53:LEU:HD21	20:XT:100:ILE:HB	1.98	0.46
24:YA:834:C:H2'	24:YA:835:A:H8	1.80	0.46
24:YA:1220:A:H5'	24:YA:1221:C:OP2	2.16	0.46
24:YA:1332:G:N2	24:YA:1610:A:N7	2.56	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2406:U:C2	34:YP:72:PRO:HB2	2.51	0.46
24:YA:2476:A:H2'	24:YA:2477:C:C6	2.51	0.46
24:YA:2618:G:H21	27:YE:150:VAL:HG21	1.80	0.46
29:YG:15:VAL:HG13	29:YG:175:LEU:HB2	1.98	0.46
1:QA:1285:A:H1'	1:QA:1286:A:OP2	2.16	0.46
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.51	0.46
22:QV:2:G:H2'	22:QV:3:G:C8	2.51	0.46
24:RA:84:A:N1	24:RA:98:G:O2'	2.38	0.46
24:RA:1045:A:O4'	24:RA:1111:A:N6	2.49	0.46
24:RA:2788:C:O2'	24:RA:2809:A:N3	2.47	0.46
28:RF:124:LEU:HB3	28:RF:193:VAL:HG23	1.98	0.46
29:RG:24:GLY:O	29:RG:26:GLN:NE2	2.49	0.46
31:RI:116:LEU:HD21	31:RI:119:PRO:HA	1.98	0.46
1:XA:244:U:H4'	1:XA:245:C:C5'	2.46	0.46
1:XA:1100:C:H3'	2:XB:96:ARG:HH21	1.81	0.46
1:XA:1233:G:O2'	1:XA:1365:G:OP1	2.32	0.46
1:XA:1244:C:H2'	1:XA:1245:A:C8	2.51	0.46
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.50	0.46
1:XA:1440:C:H2'	1:XA:1441:G:O4'	2.16	0.46
24:YA:270(J):G:H1	24:YA:270(P):C:H42	1.62	0.46
24:YA:363(C):G:H2'	24:YA:363(D):G:H8	1.81	0.46
24:YA:729:G:P	26:YD:13:ARG:HD3	2.55	0.46
24:YA:1191:G:OP1	34:YP:18:ARG:NH2	2.49	0.46
24:YA:1825:A:H4'	26:YD:233:HIS:HE1	1.81	0.46
35:YQ:58:PHE:HD2	35:YQ:61:GLY:HA3	1.80	0.46
45:Y0:38:VAL:HB	45:Y0:59:LEU:HB2	1.98	0.46
1:QA:106:C:H2'	1:QA:107:G:H8	1.80	0.46
1:QA:475:G:H2'	1:QA:476:G:H8	1.80	0.46
1:QA:638:G:H2'	1:QA:639:G:H8	1.80	0.46
9:QI:10:ARG:O	9:QI:13:ALA:HB3	2.17	0.46
12:QL:103:GLY:N	12:QL:107:ALA:O	2.50	0.46
14:QN:29:ARG:HH22	14:QN:42:ILE:H	1.63	0.46
24:RA:639:U:H2'	24:RA:640:C:H6	1.81	0.46
24:RA:971:C:H2'	24:RA:972:G:O4'	2.16	0.46
24:RA:2625:G:H2'	24:RA:2626:C:C6	2.51	0.46
27:RE:36:ARG:HG3	27:RE:47:VAL:HG12	1.98	0.46
1:XA:119:A:H4'	1:XA:120:A:C8	2.51	0.46
1:XA:556:C:H2'	1:XA:557:G:H8	1.81	0.46
1:XA:1323:G:H2'	1:XA:1324:A:C8	2.51	0.46
1:XA:1512:U:H2'	1:XA:1513:A:H8	1.81	0.46
5:XE:78:HIS:HB2	8:XH:104:ARG:HB3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:570:G:H2'	24:YA:2030:A:C5	2.51	0.46
24:YA:597:U:H2'	24:YA:598:G:H8	1.80	0.46
24:YA:1359:A:N6	24:YA:1372:U:N3	2.37	0.46
24:YA:2572:A:H2'	27:YE:144:ARG:HD3	1.98	0.46
36:YR:79:LEU:HD12	36:YR:83:ILE:HB	1.98	0.46
46:Y1:18:ILE:HG12	46:Y1:37:ILE:HG12	1.98	0.46
49:Y4:16:CYS:HB3	49:Y4:20:ASN:HB3	1.97	0.46
24:RA:223:A:O2'	24:RA:420:C:O2	2.34	0.45
24:RA:1435:G:H2'	24:RA:1436:G:C8	2.51	0.45
30:RH:91:GLY:HA3	30:RH:94:TYR:CD2	2.51	0.45
30:RH:137:ASP:HB3	30:RH:140:LYS:HB3	1.98	0.45
1:XA:997:U:H2'	1:XA:998:G:H8	1.79	0.45
1:XA:1203:C:H2'	1:XA:1204:A:H8	1.81	0.45
1:XA:1240:U:OP1	7:XG:119:ARG:NH2	2.49	0.45
8:XH:41:ARG:NH2	8:XH:123:GLU:OE2	2.48	0.45
24:YA:126:A:H61	52:Y7:42:LEU:HD12	1.81	0.45
24:YA:619:G:H3'	24:YA:620:G:H21	1.80	0.45
24:YA:963:U:H1'	24:YA:2250:G:O6	2.16	0.45
24:YA:1178:C:H2'	24:YA:1179:C:C6	2.51	0.45
27:YE:45:THR:O	27:YE:83:ASP:N	2.46	0.45
35:YQ:48:GLU:OE2	35:YQ:51:ARG:NH2	2.36	0.45
41:YW:69:LEU:HD23	41:YW:107:LEU:HD13	1.97	0.45
44:YZ:52:SER:O	44:YZ:52:SER:OG	2.29	0.45
22:XV:24:C:H2'	22:XV:25:G:C8	2.51	0.45
1:QA:10:A:H2'	1:QA:11:G:H8	1.82	0.45
1:QA:397:A:N7	1:QA:547:A:O2'	2.48	0.45
1:QA:711:G:OP2	6:QF:54:LYS:NZ	2.48	0.45
1:QA:921:U:O2'	5:QE:19:MET:O	2.29	0.45
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.50	0.45
11:QK:91:ARG:O	11:QK:95:ILE:HG13	2.16	0.45
24:RA:570:G:H2'	24:RA:2030:A:C5	2.51	0.45
24:RA:840:C:H2'	24:RA:841:A:C8	2.51	0.45
24:RA:1246:A:OP1	34:RP:15:ARG:NH2	2.44	0.45
24:RA:1519:G:H3'	24:RA:1520:U:H6	1.80	0.45
24:RA:1676:A:C2	24:RA:1993:U:H5'	2.52	0.45
24:RA:1791:A:H4'	26:RD:206:LEU:HB2	1.98	0.45
24:RA:1990:C:H2'	24:RA:1991:U:C6	2.51	0.45
25:RB:37:C:O2	37:RS:95:HIS:NE2	2.49	0.45
40:RV:4:ILE:HG22	40:RV:39:LEU:HD13	1.97	0.45
53:R8:54:GLU:O	53:R8:58:ILE:HG13	2.16	0.45
1:XA:164:U:H2'	1:XA:165:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1189:C:H5''	3:XC:5:ILE:HG21	1.99	0.45
1:XA:1228:C:OP1	13:XM:115:LYS:HG2	2.16	0.45
4:XD:104:VAL:O	4:XD:108:LEU:HG	2.16	0.45
9:XI:111:ARG:HH12	9:XI:113:LYS:HA	1.81	0.45
24:YA:593:G:H2'	24:YA:594:U:C6	2.51	0.45
24:YA:855:G:H1	24:YA:922:U:H3	1.64	0.45
24:YA:1580:A:H5''	24:YA:1581:G:C8	2.51	0.45
24:YA:2124:G:H3'	24:YA:2125:G:C8	2.50	0.45
1:QA:22:G:OP1	1:QA:561:U:H1'	2.16	0.45
1:QA:382:A:H2'	1:QA:383:A:C8	2.52	0.45
1:QA:477:G:H2'	1:QA:478:A:H8	1.80	0.45
1:QA:486:U:H2'	1:QA:487:A:C8	2.52	0.45
1:QA:1400:C:O4'	23:QX:21:G:O6	2.34	0.45
7:QG:100:ALA:O	7:QG:104:LEU:HG	2.15	0.45
10:QJ:92:THR:OG1	10:QJ:93:GLY:N	2.48	0.45
24:RA:222:A:H62	24:RA:232:G:N2	2.14	0.45
24:RA:558:G:OP1	32:RN:112:LEU:N	2.50	0.45
24:RA:1464:C:O2'	24:RA:1528:A:H8	1.99	0.45
24:RA:2567:G:H2'	24:RA:2568:C:C6	2.51	0.45
25:RB:16:G:H2'	25:RB:17:C:H6	1.82	0.45
35:RQ:4:PRO:HG3	35:RQ:69:PHE:HE2	1.82	0.45
1:XA:139:G:H2'	1:XA:140:A:H8	1.80	0.45
1:XA:738:C:OP1	6:XF:2:ARG:NH1	2.46	0.45
1:XA:885:G:H2'	1:XA:886:G:H8	1.81	0.45
4:XD:20:TYR:CD1	4:XD:106:TYR:OH	2.65	0.45
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.98	0.45
24:YA:242:G:H1'	24:YA:243:U:OP2	2.17	0.45
24:YA:304:G:H2'	24:YA:305:U:C6	2.51	0.45
24:YA:755:C:H2'	24:YA:756:C:C6	2.51	0.45
24:YA:760:G:H2'	24:YA:761:A:O4'	2.16	0.45
24:YA:1678:G:H2'	24:YA:1679:U:H6	1.82	0.45
1:QA:711:G:H2'	1:QA:712:A:C8	2.52	0.45
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.50	0.45
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.52	0.45
9:QI:47:LEU:HB2	9:QI:50:LEU:HD12	1.99	0.45
24:RA:83:G:H1	24:RA:102:G:HO2'	1.61	0.45
24:RA:250:G:H2'	24:RA:251:A:C8	2.51	0.45
24:RA:1490:A:O2'	26:RD:99:ASP:OD1	2.34	0.45
24:RA:1825:A:H2'	24:RA:1826:G:C8	2.51	0.45
28:RF:158:THR:HG23	28:RF:160:ASN:H	1.81	0.45
52:R7:13:ALA:HB2	52:R7:46:VAL:HG21	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:115:G:C6	1:XA:313:A:C6	3.04	0.45
1:XA:444:C:H2'	1:XA:445:G:C8	2.52	0.45
1:XA:1167:A:H2'	1:XA:1169:A:C8	2.52	0.45
1:XA:1313:U:H2'	1:XA:1314:C:C6	2.51	0.45
1:XA:1425:U:H3	1:XA:1475:G:H1	1.64	0.45
3:XC:134:ILE:O	3:XC:138:VAL:HG23	2.16	0.45
24:YA:503:A:H4'	24:YA:504:U:C5'	2.46	0.45
24:YA:820:A:H2'	24:YA:821:A:C8	2.52	0.45
24:YA:1490:A:O2'	26:YD:99:ASP:OD1	2.35	0.45
24:YA:1652:A:OP1	36:YR:8:ARG:NH1	2.45	0.45
24:YA:2845:G:H2'	24:YA:2846:G:C8	2.52	0.45
37:YS:78:LEU:HD11	37:YS:108:GLY:HA3	1.98	0.45
37:YS:109:GLY:O	37:YS:110:LEU:HG	2.17	0.45
22:XV:36:G:H2'	22:XV:37:G:H8	1.81	0.45
1:QA:56:U:H2'	1:QA:57:G:H8	1.81	0.45
1:QA:59:A:H3'	1:QA:331:G:H22	1.81	0.45
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.51	0.45
1:QA:1060:C:H2'	1:QA:1061:G:C8	2.51	0.45
4:QD:98:GLU:HA	4:QD:103:ASN:HD22	1.82	0.45
6:QF:97:PHE:HB2	18:QR:32:ARG:HE	1.81	0.45
24:RA:784:A:O2'	24:RA:785:G:H5''	2.15	0.45
24:RA:1267:U:H2'	24:RA:1268:A:H8	1.81	0.45
24:RA:1302:A:H5'	24:RA:1608:A:OP2	2.16	0.45
24:RA:2021:C:OP1	50:R5:12:SER:OG	2.26	0.45
24:RA:2306:C:H2'	24:RA:2307:G:N2	2.31	0.45
24:RA:2657:A:O2'	30:RH:160:LYS:NZ	2.48	0.45
29:RG:63:ILE:HG13	29:RG:64:THR:HG23	1.97	0.45
34:RP:115:LEU:HA	34:RP:134:ALA:HB2	1.99	0.45
53:R8:62:LEU:HA	53:R8:64:TYR:HD2	1.81	0.45
1:XA:489:C:H5''	4:XD:132:ARG:HH22	1.81	0.45
1:XA:519:C:H2'	1:XA:520:A:C8	2.52	0.45
1:XA:950:U:H2'	1:XA:951:G:C8	2.51	0.45
4:XD:3:ARG:HD3	4:XD:118:ARG:HH21	1.80	0.45
24:YA:231:C:H3'	24:YA:232:G:C8	2.51	0.45
24:YA:746:A:O2'	24:YA:2611:U:O2'	2.25	0.45
24:YA:1297:C:H2'	24:YA:1298:C:H6	1.81	0.45
24:YA:1336:A:H2'	24:YA:1337:G:C8	2.52	0.45
24:YA:1609:A:N1	24:YA:1616:A:C6	2.84	0.45
24:YA:2377:A:H2'	24:YA:2378:A:C8	2.51	0.45
24:YA:2546:U:H4'	24:YA:2566:A:H2	1.81	0.45
34:YP:49:ARG:HH11	53:Y8:58:ILE:HG22	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Y3:40:THR:HG22	48:Y3:42:ALA:H	1.82	0.45
1:QA:299:G:H2'	1:QA:300:A:C8	2.52	0.45
1:QA:1443:G:H5'	1:QA:1446:A:OP2	2.17	0.45
12:QL:91:LYS:HD3	12:QL:91:LYS:HA	1.78	0.45
13:QM:39:ILE:HG21	13:QM:56:LEU:HD21	1.99	0.45
22:QV:24:C:H2'	22:QV:25:G:C8	2.52	0.45
24:RA:597:U:H2'	24:RA:598:G:C8	2.51	0.45
24:RA:1259:G:H2'	24:RA:1260:G:H8	1.81	0.45
24:RA:1292:U:H2'	24:RA:1293:C:C6	2.52	0.45
24:RA:1542:G:H5''	24:RA:1543:A:OP2	2.17	0.45
24:RA:2537:U:H2'	24:RA:2538:C:C6	2.51	0.45
34:RP:92:GLU:HA	34:RP:123:LEU:HD11	1.98	0.45
1:XA:74:C:H2'	1:XA:75:C:C6	2.51	0.45
1:XA:272:C:H2'	1:XA:273:A:C8	2.48	0.45
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.52	0.45
3:XC:190:ARG:H	3:XC:195:VAL:HG13	1.82	0.45
4:XD:74:GLN:O	4:XD:78:LEU:HG	2.16	0.45
11:XK:18:ARG:HG3	11:XK:35:PRO:HA	1.98	0.45
24:YA:186:G:H2'	24:YA:187:G:H8	1.81	0.45
24:YA:270(U):C:H2'	24:YA:270(V):G:H8	1.82	0.45
24:YA:852:G:H2'	24:YA:853:G:C8	2.52	0.45
24:YA:2591:C:H2'	24:YA:2592:G:C8	2.51	0.45
47:Y2:45:SER:OG	47:Y2:46:GLN:N	2.49	0.45
1:QA:7:G:C6	1:QA:298:A:C2	3.05	0.45
1:QA:186(F):C:H2'	1:QA:187:C:O4'	2.16	0.45
1:QA:924:C:H2'	1:QA:925:G:C8	2.52	0.45
1:QA:976:G:OP2	1:QA:1358:U:O2'	2.34	0.45
1:QA:1066:C:H3'	1:QA:1067:A:H8	1.82	0.45
1:QA:1320:C:O2	19:QS:36:ARG:NH2	2.50	0.45
1:QA:1469:G:H2'	1:QA:1470:G:H8	1.82	0.45
2:QB:69:LEU:HD23	2:QB:159:PRO:HB3	1.98	0.45
4:QD:49:ARG:HD3	4:QD:50:ARG:H	1.81	0.45
9:QI:67:GLY:O	9:QI:73:GLN:NE2	2.50	0.45
24:RA:1065:U:O2	24:RA:1074:G:N1	2.50	0.45
24:RA:1085:A:O2'	24:RA:1086:A:OP1	2.28	0.45
24:RA:1231:G:H2'	24:RA:1232:G:H8	1.81	0.45
24:RA:2064:C:H2'	24:RA:2065:C:C6	2.51	0.45
24:RA:2183:C:H2'	24:RA:2184:G:H8	1.81	0.45
24:RA:2845:G:H2'	24:RA:2846:G:H8	1.82	0.45
25:RB:28:C:H2'	25:RB:29:A:C8	2.52	0.45
25:RB:44:G:H1'	25:RB:47:C:H42	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RN:6:PRO:HG3	32:RN:41:ASP:HB2	1.98	0.45
32:RN:27:ALA:HA	32:RN:30:ILE:HD12	1.98	0.45
35:RQ:111:GLU:OE1	35:RQ:133:ARG:NH2	2.50	0.45
49:R4:26:SER:OG	49:R4:28:LYS:O	2.34	0.45
1:XA:227:G:H2'	1:XA:228:A:C8	2.51	0.45
1:XA:686:U:H2'	1:XA:687:A:C8	2.52	0.45
1:XA:782:A:H62	1:XA:800:G:H21	1.65	0.45
1:XA:1256:A:H4'	1:XA:1258:G:C4	2.52	0.45
1:XA:1305:G:O2'	1:XA:1332:A:N6	2.50	0.45
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.52	0.45
9:XI:42:ARG:NH1	9:XI:71:SER:OG	2.49	0.45
24:YA:861:A:N3	25:YB:79:C:O2'	2.50	0.45
24:YA:1063:G:H2'	24:YA:1064:C:O4'	2.17	0.45
24:YA:1226:G:OP1	40:YV:69:LYS:NZ	2.45	0.45
24:YA:2059:A:H5'	24:YA:2060:A:OP2	2.17	0.45
24:YA:2215:G:H2'	24:YA:2216:G:H8	1.81	0.45
25:YB:66:A:O2'	25:YB:67:G:O5'	2.32	0.45
26:YD:108:PRO:HB3	26:YD:143:HIS:CE1	2.52	0.45
28:YF:195:ASP:OD1	28:YF:195:ASP:N	2.46	0.45
29:YG:10:LYS:NZ	29:YG:14:GLU:OE1	2.44	0.45
53:Y8:62:LEU:HA	53:Y8:64:TYR:HD1	1.81	0.45
1:QA:113:G:H2'	1:QA:114:U:C6	2.52	0.45
1:QA:184:G:H2'	1:QA:185:A:H8	1.82	0.45
1:QA:918:A:H2'	1:QA:919:A:C8	2.52	0.45
1:QA:1290:G:H4'	7:QG:37:ASN:HD21	1.82	0.45
7:QG:16:LEU:HD21	9:QI:45:ALA:N	2.31	0.45
8:QH:75:ARG:H	8:QH:75:ARG:HG2	1.66	0.45
24:RA:372:G:O2'	24:RA:373:U:O5'	2.32	0.45
24:RA:1206:G:H2'	24:RA:1207:C:C6	2.52	0.45
24:RA:1210:A:H4'	24:RA:1211:U:O5'	2.16	0.45
24:RA:1592:C:H2'	24:RA:1593:G:C8	2.51	0.45
24:RA:1637:A:H2'	24:RA:1638:C:C6	2.52	0.45
24:RA:1667:G:O2'	24:RA:1991:U:O4	2.34	0.45
25:RB:30:C:O2'	25:RB:57:A:N1	2.50	0.45
27:RE:143:ASN:HB2	27:RE:147:PRO:HD2	1.99	0.45
36:RR:74:LYS:O	36:RR:75:LEU:HB3	2.16	0.45
44:RZ:13:GLU:HB3	44:RZ:18:LEU:HD21	1.99	0.45
1:XA:1273:G:H3'	1:XA:1274:G:C8	2.52	0.45
21:XU:10:ARG:HA	21:XU:13:ILE:HG12	1.99	0.45
24:YA:1769:G:H2'	24:YA:1770:G:H8	1.82	0.45
24:YA:2513:G:H2'	24:YA:2514:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:639:G:H2'	1:QA:640:A:C8	2.52	0.45
1:QA:768:A:N3	1:QA:1512:U:O2'	2.50	0.45
1:QA:1145:C:H4'	1:QA:1146:A:C8	2.52	0.45
1:QA:1349:A:H62	1:QA:1373:G:H21	1.63	0.45
3:QC:189:ALA:HB3	3:QC:196:LEU:HB2	1.99	0.45
13:QM:74:VAL:O	13:QM:78:ILE:HG12	2.16	0.45
24:RA:300:A:P	43:RY:84:ARG:HH22	2.39	0.45
24:RA:1152:C:H4'	39:RU:77:SER:HA	1.98	0.45
24:RA:1336:A:H2'	24:RA:1337:G:C8	2.52	0.45
24:RA:1569:A:H2'	24:RA:1570:A:C8	2.51	0.45
24:RA:1841:U:H2'	24:RA:1842:G:H8	1.82	0.45
24:RA:2310:A:N6	29:RG:79:ASN:OD1	2.49	0.45
24:RA:2647:U:H2'	24:RA:2648:C:C6	2.52	0.45
30:RH:151:ILE:O	30:RH:153:LYS:N	2.50	0.45
44:RZ:94:GLU:HG3	44:RZ:95:PRO:HD3	1.99	0.45
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.52	0.45
1:XA:1315:U:O2'	1:XA:1360:A:N3	2.44	0.45
4:XD:116:GLN:O	4:XD:120:LEU:HG	2.17	0.45
5:XE:5:ASP:N	5:XE:5:ASP:OD1	2.50	0.45
7:XG:116:ALA:O	7:XG:120:ILE:HG12	2.16	0.45
18:XR:59:SER:N	18:XR:62:GLU:OE2	2.41	0.45
24:YA:519:U:H2'	24:YA:520:G:H8	1.81	0.45
24:YA:703:U:H3	24:YA:728:G:H1	1.65	0.45
24:YA:870:A:OP1	35:YQ:6:ARG:NH2	2.46	0.45
24:YA:1201:C:H2'	24:YA:1202:C:H6	1.80	0.45
24:YA:2036:C:H2'	24:YA:2037:G:C8	2.51	0.45
24:YA:2051:A:H4'	27:YE:141:ILE:HG12	1.98	0.45
24:YA:2466:C:H5''	54:Y9:6:SER:HB3	1.99	0.45
26:YD:17:THR:HB	26:YD:205:VAL:H	1.81	0.45
29:YG:167:GLU:OE2	29:YG:167:GLU:N	2.48	0.45
1:QA:12:U:H4'	1:QA:526:C:H4'	1.99	0.45
1:QA:123:C:H2'	1:QA:124:G:H8	1.82	0.45
1:QA:281:G:H8	1:QA:281:G:OP2	2.00	0.45
1:QA:297:G:H4'	1:QA:557:G:H4'	1.99	0.45
1:QA:444:C:H2'	1:QA:445:G:C8	2.52	0.45
1:QA:743:U:H2'	1:QA:744:C:C6	2.52	0.45
1:QA:1481:U:H2'	1:QA:1482:G:C8	2.51	0.45
8:QH:10:LEU:HD21	8:QH:85:ARG:HB2	1.99	0.45
24:RA:29:U:H2'	24:RA:30:G:H8	1.81	0.45
24:RA:212:G:H2'	24:RA:213:A:C8	2.51	0.45
24:RA:680:G:H2'	24:RA:681:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1310:G:OP2	52:R7:9:ARG:NE	2.33	0.45
24:RA:1430:C:H2'	24:RA:1431:U:C6	2.52	0.45
24:RA:2867:G:O2'	24:RA:2868:A:H8	2.00	0.45
29:RG:165:THR:HG23	29:RG:168:GLU:H	1.81	0.45
31:RI:14:ASP:C	31:RI:16:GLY:H	2.21	0.45
31:RI:58:LEU:HA	31:RI:61:ARG:HE	1.80	0.45
32:RN:34:LEU:O	32:RN:49:GLY:HA3	2.17	0.45
36:RR:45:ARG:HH21	36:RR:97:VAL:HG21	1.81	0.45
40:RV:43:GLU:HG3	40:RV:44:LYS:H	1.82	0.45
44:RZ:163:LEU:HD22	44:RZ:167:PRO:HG3	1.98	0.45
1:XA:1510:U:H2'	1:XA:1511:G:H8	1.82	0.45
10:XJ:69:ASN:O	10:XJ:70:ARG:NE	2.49	0.45
24:YA:48:G:N2	24:YA:177:G:OP2	2.50	0.45
24:YA:262:A:N3	24:YA:430:G:O2'	2.34	0.45
24:YA:270(U):C:H2'	24:YA:270(V):G:C8	2.52	0.45
24:YA:436:C:H2'	24:YA:438:G:C8	2.51	0.45
24:YA:729:G:C5	26:YD:208:LYS:HB2	2.52	0.45
24:YA:1359:A:N6	24:YA:1372:U:C2	2.85	0.45
24:YA:2629:A:O2'	24:YA:2630:G:H5''	2.17	0.45
27:YE:92:THR:OG1	27:YE:93:VAL:N	2.49	0.45
29:YG:3:LEU:HD12	29:YG:3:LEU:HA	1.83	0.45
29:YG:118:ARG:HG3	29:YG:181:ARG:HD3	1.98	0.45
30:YH:88:LEU:HA	30:YH:130:ARG:HA	1.99	0.45
45:Y0:10:THR:HG22	45:Y0:12:ASN:H	1.82	0.45
1:QA:434:U:H2'	1:QA:435:C:C6	2.52	0.44
1:QA:1227:A:H5''	13:QM:111:LYS:NZ	2.32	0.44
4:QD:9:CYS:SG	4:QD:25:ARG:NH1	2.83	0.44
9:QI:64:THR:O	9:QI:64:THR:OG1	2.34	0.44
13:QM:47:ASP:OD1	13:QM:47:ASP:N	2.47	0.44
24:RA:660:G:H21	34:RP:12:ALA:HA	1.81	0.44
24:RA:872:A:H2'	24:RA:873:G:C8	2.52	0.44
24:RA:1107:G:H2'	24:RA:1108:U:H6	1.82	0.44
24:RA:1927:A:H2'	24:RA:1928:A:C8	2.52	0.44
24:RA:2647:U:H2'	24:RA:2648:C:H6	1.82	0.44
29:RG:125:PHE:HD2	29:RG:166:ASP:HB2	1.81	0.44
30:RH:85:LYS:HB3	30:RH:133:VAL:HB	1.98	0.44
34:RP:37:GLY:N	34:RP:40:SER:OG	2.50	0.44
37:RS:42:ASP:O	37:RS:43:GLU:HG2	2.17	0.44
44:RZ:4:ARG:HA	44:RZ:59:LEU:H	1.83	0.44
1:XA:97:U:H2'	1:XA:99:C:C6	2.52	0.44
1:XA:704:A:OP2	1:XA:704:A:H8	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1268:A:H2'	1:XA:1269:A:C8	2.52	0.44
1:XA:1277:C:O2'	1:XA:1279:A:H1'	2.16	0.44
4:XD:122:ARG:HD3	4:XD:136:PRO:HD3	2.00	0.44
13:XM:3:ARG:O	13:XM:57:ARG:NH1	2.50	0.44
24:YA:198:C:O2'	24:YA:199:A:H5'	2.17	0.44
24:YA:1113:U:H2'	24:YA:1114:G:H8	1.82	0.44
24:YA:1292:U:H2'	24:YA:1293:C:H6	1.82	0.44
24:YA:1923:U:H2'	24:YA:1924:C:C6	2.52	0.44
25:YB:3:C:H2'	25:YB:4:C:C6	2.52	0.44
25:YB:9:G:OP1	37:YS:15:ARG:NH1	2.36	0.44
25:YB:87:G:H22	25:YB:89:G:H3'	1.81	0.44
26:YD:254:THR:OG1	26:YD:254:THR:O	2.35	0.44
27:YE:69:LYS:HA	27:YE:69:LYS:HD3	1.76	0.44
38:YT:30:VAL:HG23	38:YT:86:ILE:HB	1.98	0.44
41:YW:35:ILE:O	41:YW:39:THR:OG1	2.33	0.44
43:YY:14:LEU:HB2	43:YY:75:ILE:HD11	1.98	0.44
1:QA:555:C:H2'	1:QA:556:C:C6	2.52	0.44
1:QA:851:G:H2'	1:QA:852:G:H8	1.80	0.44
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.52	0.44
1:QA:1419:G:H1	1:QA:1481:U:H3	1.63	0.44
3:QC:95:THR:HG22	3:QC:97:LYS:H	1.82	0.44
4:QD:131:ARG:NH1	4:QD:132:ARG:O	2.50	0.44
9:QI:17:VAL:HG22	9:QI:63:ILE:HD12	1.99	0.44
24:RA:39:C:H2'	24:RA:40:C:C6	2.52	0.44
24:RA:574:C:O2	27:RE:145:LYS:NZ	2.50	0.44
24:RA:724:U:H2'	24:RA:725:G:O4'	2.17	0.44
24:RA:872:A:H2'	24:RA:873:G:H8	1.82	0.44
24:RA:900:A:H3'	24:RA:901:A:H8	1.82	0.44
24:RA:1408:C:H2'	24:RA:1409:C:C6	2.52	0.44
24:RA:1899:G:O2'	24:RA:1900:A:H5''	2.17	0.44
24:RA:2121:G:H2'	24:RA:2122:U:C6	2.53	0.44
24:RA:2674:G:H2'	24:RA:2675:A:C8	2.53	0.44
24:RA:2857:G:N2	24:RA:2859:G:H3'	2.32	0.44
28:RF:11:VAL:HG21	28:RF:20:LEU:HD23	1.99	0.44
35:RQ:60:ARG:HH22	44:RZ:113:ALA:HB3	1.81	0.44
37:RS:16:ASN:OD1	37:RS:19:LYS:NZ	2.50	0.44
24:YA:841:A:H2'	24:YA:842:G:H8	1.83	0.44
24:YA:923:C:H2'	24:YA:924:C:C6	2.53	0.44
24:YA:1341:U:OP1	24:YA:1397:U:N3	2.35	0.44
24:YA:2246:G:H2'	24:YA:2247:A:C8	2.52	0.44
24:YA:2577:A:O4'	50:Y5:3:LYS:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2836:U:H2'	24:YA:2837:G:H8	1.82	0.44
34:YP:84:ASN:HA	34:YP:115:LEU:O	2.18	0.44
1:QA:328:C:H1'	1:QA:329:A:OP2	2.17	0.44
1:QA:1004:A:P	1:QA:1025:U:H3	2.40	0.44
4:QD:68:TYR:CD2	4:QD:97:LEU:HD12	2.53	0.44
11:QK:96:ARG:HA	11:QK:99:GLN:HE21	1.82	0.44
24:RA:635:C:H2'	24:RA:636:G:O4'	2.17	0.44
24:RA:661:C:H5'	34:RP:15:ARG:NH2	2.31	0.44
24:RA:678:C:H2'	24:RA:679:C:H6	1.81	0.44
24:RA:923:C:H2'	24:RA:924:C:H6	1.82	0.44
24:RA:948:G:H2'	24:RA:949:C:H6	1.82	0.44
24:RA:1389:G:H2'	24:RA:1390:U:C6	2.52	0.44
24:RA:2487:G:H2'	24:RA:2488:A:C8	2.52	0.44
54:R9:27:CYS:SG	54:R9:28:GLU:N	2.91	0.44
1:XA:109:A:C6	1:XA:326:G:C6	3.05	0.44
1:XA:312:C:H2'	1:XA:313:A:H8	1.82	0.44
1:XA:505:G:H2'	1:XA:506:G:C8	2.52	0.44
1:XA:985:C:H2'	1:XA:986:A:H8	1.82	0.44
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.52	0.44
1:XA:1404:C:H2'	1:XA:1405:G:C8	2.53	0.44
2:XB:43:ASP:O	2:XB:47:THR:OG1	2.33	0.44
24:YA:970:C:H2'	24:YA:971:C:C6	2.53	0.44
24:YA:1625:C:H2'	24:YA:1626:G:O4'	2.18	0.44
24:YA:1657:C:H2'	24:YA:1658:C:H6	1.82	0.44
24:YA:1657:C:H2'	24:YA:1658:C:C6	2.52	0.44
24:YA:1889:A:H2'	24:YA:1890:A:C8	2.51	0.44
24:YA:2364:C:H2'	24:YA:2365:G:O4'	2.17	0.44
45:Y0:38:VAL:HG21	45:Y0:45:PHE:HD2	1.83	0.44
22:XV:1:C:H2'	22:XV:2:G:H8	1.81	0.44
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.53	0.44
1:QA:1400:C:C4'	23:QX:21:G:C6	3.00	0.44
1:QA:1516:G:H2'	1:QA:1518:A:OP2	2.17	0.44
10:QJ:51:ARG:O	14:QN:45:ARG:NH1	2.50	0.44
13:QM:18:ALA:HA	13:QM:21:TYR:HD2	1.83	0.44
15:QO:67:LEU:HD12	15:QO:78:TYR:CE1	2.53	0.44
24:RA:20:C:H2'	24:RA:21:A:H8	1.82	0.44
24:RA:956:G:H2'	24:RA:957:A:H2'	1.99	0.44
24:RA:1140:C:OP1	32:RN:23:LEU:HB3	2.17	0.44
24:RA:1181:C:H2'	24:RA:1182:A:C8	2.52	0.44
24:RA:1205:U:C4	28:RF:171:PRO:HA	2.53	0.44
24:RA:1812:A:H2'	24:RA:1813:G:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2564:A:H2'	24:RA:2565:A:C8	2.52	0.44
30:RH:67:LEU:O	30:RH:71:LEU:HG	2.18	0.44
36:RR:38:VAL:HG22	36:RR:112:ALA:HB2	1.98	0.44
40:RV:44:LYS:HB3	40:RV:45:THR:H	1.52	0.44
42:RX:21:PHE:HA	42:RX:26:TYR:HE1	1.80	0.44
1:XA:107:G:H3'	1:XA:108:G:H21	1.82	0.44
1:XA:161:A:H2'	1:XA:162:A:C8	2.53	0.44
1:XA:812:C:H1'	1:XA:813:U:OP2	2.18	0.44
1:XA:1238:A:H62	1:XA:1301:U:H3	1.65	0.44
5:XE:89:ILE:HD12	5:XE:121:LYS:O	2.18	0.44
5:XE:103:GLY:C	5:XE:106:PRO:HD2	2.38	0.44
24:YA:177:G:H3'	24:YA:178:G:H8	1.81	0.44
24:YA:247:G:H4'	24:YA:386:G:C5	2.52	0.44
24:YA:659:C:H2'	24:YA:660:G:C8	2.53	0.44
24:YA:956:G:OP2	35:YQ:85:LYS:NZ	2.50	0.44
24:YA:1332:G:H8	24:YA:1332:G:H2'	1.59	0.44
24:YA:2025:C:H2'	24:YA:2026:C:C6	2.52	0.44
31:YI:30:LEU:HB3	31:YI:36:ALA:HB3	1.98	0.44
32:YN:34:LEU:HA	32:YN:34:LEU:HD13	1.77	0.44
38:YT:16:ARG:HH21	38:YT:19:LEU:HD21	1.83	0.44
39:YU:50:ARG:O	39:YU:54:LYS:NZ	2.51	0.44
1:QA:243:A:H4'	1:QA:244:U:H3'	2.00	0.44
1:QA:626:U:P	16:QP:18:ARG:HH21	2.40	0.44
1:QA:707:C:H4'	11:QK:20:TYR:HD2	1.82	0.44
1:QA:719:C:H1'	18:QR:49:LYS:HG2	1.99	0.44
1:QA:1032(A):G:H2'	1:QA:1032(B):G:C8	2.51	0.44
14:QN:39:LEU:HD23	14:QN:39:LEU:HA	1.89	0.44
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.99	0.44
24:RA:16:G:H2'	24:RA:17:G:H8	1.82	0.44
24:RA:832:G:H2'	24:RA:833:U:C6	2.53	0.44
24:RA:2020:A:N7	50:R5:9:LYS:NZ	2.66	0.44
24:RA:2292:C:H2'	24:RA:2293:C:C6	2.52	0.44
24:RA:2306:C:OP2	24:RA:2307:G:H2'	2.18	0.44
24:RA:2546:U:H5''	24:RA:2547:U:H5'	1.99	0.44
24:RA:2554:U:H2'	24:RA:2555:U:C6	2.53	0.44
24:RA:2791:C:H4'	24:RA:2792:G:H5'	2.00	0.44
26:RD:108:PRO:HB3	26:RD:143:HIS:CE1	2.53	0.44
33:RO:24:VAL:HG12	33:RO:33:ALA:HB2	1.99	0.44
36:RR:74:LYS:HD2	36:RR:74:LYS:HA	1.77	0.44
1:XA:116:A:C8	1:XA:116:A:OP2	2.70	0.44
1:XA:288:A:H2'	1:XA:289:G:H4'	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:381:C:H2'	1:XA:382:A:O4'	2.17	0.44
1:XA:390:C:H2'	1:XA:391:G:C8	2.53	0.44
1:XA:768:A:H4'	1:XA:1523:G:N2	2.32	0.44
1:XA:966:G:C2	22:XV:35:C:H5'	2.52	0.44
24:YA:330:A:H2	24:YA:1210:A:O2'	2.01	0.44
24:YA:507:A:H5''	24:YA:508:G:H5'	2.00	0.44
24:YA:608:A:H2'	24:YA:609:A:C8	2.52	0.44
24:YA:1394:U:O2	42:YX:16:LYS:NZ	2.50	0.44
34:YP:62:LEU:HD12	53:Y8:30:ARG:HE	1.82	0.44
53:Y8:7:HIS:HB3	53:Y8:59:LYS:HG2	1.98	0.44
1:QA:34:C:H2'	1:QA:35:G:C8	2.51	0.44
1:QA:422:C:H4'	1:QA:423:G:C4	2.52	0.44
1:QA:690:G:H22	11:QK:55:LYS:HZ1	1.66	0.44
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.53	0.44
1:QA:1304:G:N2	1:QA:1334:G:O6	2.50	0.44
1:QA:1512:U:H2'	1:QA:1513:A:H8	1.83	0.44
3:QC:174:PRO:O	3:QC:177:THR:OG1	2.35	0.44
6:QF:35:ALA:HB1	6:QF:65:VAL:HG21	2.00	0.44
9:QI:2:GLU:HG2	9:QI:20:ARG:CZ	2.47	0.44
20:QT:48:LYS:HD2	20:QT:51:GLU:HB2	2.00	0.44
23:QX:8:A:H2'	23:QX:9:G:H8	1.80	0.44
24:RA:144:C:H2'	24:RA:145:G:C8	2.52	0.44
24:RA:270(U):C:H2'	24:RA:270(V):G:H8	1.82	0.44
24:RA:806:C:O2	24:RA:2444:G:O2'	2.33	0.44
24:RA:1000:A:H2'	24:RA:1001:A:C8	2.52	0.44
24:RA:1149:G:H2'	24:RA:1150:C:C6	2.53	0.44
24:RA:1478:G:H1'	24:RA:1557:C:O2'	2.18	0.44
24:RA:1496:A:H8	24:RA:1577:C:HO2'	1.66	0.44
24:RA:1657:C:O2'	27:RE:133:LYS:CD	2.59	0.44
24:RA:1794:U:H2'	24:RA:1795:C:C6	2.53	0.44
24:RA:1796:U:H2'	24:RA:1797:C:C6	2.52	0.44
24:RA:1800:C:C2	24:RA:1802:A:C8	3.05	0.44
26:RD:79:VAL:HG21	26:RD:111:LEU:HD21	2.00	0.44
31:RI:79:ILE:HB	31:RI:142:VAL:HA	1.98	0.44
32:RN:30:ILE:O	32:RN:34:LEU:HG	2.18	0.44
36:RR:74:LYS:C	36:RR:76:VAL:H	2.21	0.44
1:XA:944:G:N1	1:XA:1338:G:OP2	2.33	0.44
1:XA:1285:A:H1'	1:XA:1286:A:OP2	2.17	0.44
8:XH:79:VAL:HG13	8:XH:80:ILE:HD12	1.99	0.44
24:YA:144:C:H2'	24:YA:145:G:C8	2.52	0.44
24:YA:300:A:OP2	43:YY:84:ARG:NH2	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:816:C:O2'	24:YA:932:G:O6	2.36	0.44
24:YA:1259:G:H2'	24:YA:1260:G:C8	2.52	0.44
24:YA:2804:C:H2'	24:YA:2805:G:H8	1.82	0.44
27:YE:31:CYS:HB3	27:YE:49:LEU:HG	1.99	0.44
29:YG:86:MET:HE2	29:YG:86:MET:HB3	1.75	0.44
51:Y6:23:THR:OG1	51:Y6:24:GLU:N	2.50	0.44
1:QA:997:U:H2'	1:QA:998:G:C8	2.53	0.44
1:QA:1010:G:H2'	1:QA:1011:G:C8	2.51	0.44
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.52	0.44
2:QB:75:LYS:HE3	2:QB:75:LYS:HB3	1.84	0.44
4:QD:85:LYS:HD3	4:QD:86:LYS:H	1.83	0.44
4:QD:208:SER:O	4:QD:208:SER:OG	2.35	0.44
5:QE:140:ARG:NH1	8:QH:77:GLU:OE1	2.51	0.44
6:QF:18:GLN:HA	6:QF:21:LEU:HB2	1.98	0.44
12:QL:84:LEU:O	12:QL:100:ILE:HD12	2.18	0.44
24:RA:49:A:H61	24:RA:177:G:H2'	1.83	0.44
24:RA:172:C:H2'	24:RA:173:G:C8	2.53	0.44
24:RA:193:U:N3	24:RA:203:C:O2	2.51	0.44
24:RA:250:G:OP2	34:RP:59:LEU:HD11	2.17	0.44
24:RA:1259:G:H2'	24:RA:1260:G:C8	2.52	0.44
24:RA:1571:A:H2'	24:RA:1572:A:C8	2.53	0.44
24:RA:1639:U:C2'	24:RA:1640:C:H5''	2.48	0.44
24:RA:2187:G:H2'	24:RA:2188:C:C6	2.52	0.44
24:RA:2756:U:OP2	54:R9:19:ARG:NE	2.50	0.44
26:RD:25:THR:O	26:RD:27:THR:N	2.50	0.44
1:XA:464:G:N1	1:XA:467:G:OP2	2.40	0.44
1:XA:1241:G:H2'	1:XA:1242:C:C6	2.52	0.44
1:XA:1422:G:H2'	1:XA:1423:G:H8	1.82	0.44
4:XD:154:ASN:OD1	4:XD:154:ASN:N	2.44	0.44
5:XE:84:PHE:O	5:XE:87:SER:OG	2.35	0.44
23:XX:16:C:C5	23:XX:16:C:OP2	2.70	0.44
23:XX:16:C:O5'	23:XX:16:C:C6	2.70	0.44
24:YA:433:C:H2'	24:YA:434:U:C6	2.52	0.44
24:YA:639:U:H2'	24:YA:640:C:H6	1.82	0.44
24:YA:829:A:N7	24:YA:2247:A:O2'	2.46	0.44
24:YA:1012:U:OP1	39:YU:75:ASN:ND2	2.42	0.44
24:YA:1375:C:H2'	24:YA:1376:C:H6	1.83	0.44
24:YA:1754:C:P	38:YT:96:ARG:HH12	2.41	0.44
24:YA:2151:G:H2'	24:YA:2152:G:C8	2.50	0.44
24:YA:2335:A:O2'	24:YA:2336:A:H2'	2.18	0.44
24:YA:2712:U:OP1	24:YA:2714:G:H4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YI:123:LEU:HD23	31:YI:142:VAL:HG13	2.00	0.44
35:YQ:12:GLN:HB2	35:YQ:73:PRO:HD2	2.00	0.44
1:QA:277:C:OP2	17:QQ:41:LYS:NZ	2.51	0.44
1:QA:406:G:H2'	1:QA:407:G:H8	1.83	0.44
1:QA:436:C:H2'	1:QA:437:U:C6	2.53	0.44
1:QA:738:C:H2'	1:QA:739:C:C6	2.53	0.44
1:QA:864:A:H2'	1:QA:865:A:C8	2.53	0.44
1:QA:1054:C:O2	1:QA:1196:U:N3	2.51	0.44
1:QA:1198:G:H2'	1:QA:1199:U:C6	2.53	0.44
7:QG:50:ILE:HG21	7:QG:61:VAL:HG11	2.00	0.44
14:QN:24:CYS:HB3	14:QN:27:CYS:SG	2.56	0.44
24:RA:831:G:O2'	34:RP:38:GLN:OE1	2.35	0.44
24:RA:1821:A:H2'	24:RA:1822:G:H8	1.83	0.44
24:RA:2773:C:H2'	24:RA:2774:C:H6	1.83	0.44
35:RQ:45:GLN:NE2	35:RQ:91:GLU:O	2.51	0.44
37:RS:83:LYS:HD3	37:RS:84:GLN:HG3	1.99	0.44
41:RW:88:ARG:NH1	41:RW:94:ASP:OD1	2.50	0.44
51:R6:11:LEU:HB2	51:R6:21:TYR:HB2	2.00	0.44
1:XA:265:G:H4'	17:XQ:66:SER:HA	2.00	0.44
1:XA:401:C:H2'	1:XA:402:G:C8	2.53	0.44
1:XA:822:C:H2'	1:XA:823:G:H8	1.83	0.44
7:XG:72:ARG:O	7:XG:91:VAL:HG22	2.17	0.44
24:YA:428:A:H3'	24:YA:429:A:C8	2.53	0.44
24:YA:639:U:H2'	24:YA:640:C:C6	2.52	0.44
24:YA:742:G:H2'	24:YA:743:G:H8	1.83	0.44
24:YA:1542:G:H5''	24:YA:1543:A:OP2	2.18	0.44
24:YA:1568:G:H5''	26:YD:61:LEU:HD23	2.00	0.44
24:YA:1636:C:H2'	24:YA:1637:A:H8	1.82	0.44
24:YA:1694:C:H1'	24:YA:1695:G:OP2	2.18	0.44
24:YA:2692:C:H2'	24:YA:2693:A:C8	2.52	0.44
27:YE:24:THR:OG1	27:YE:186:GLY:HA2	2.18	0.44
29:YG:24:GLY:O	29:YG:26:GLN:NE2	2.50	0.44
32:YN:30:ILE:HG23	32:YN:52:VAL:HG11	2.00	0.44
33:YO:23:ARG:NH2	33:YO:28:SER:O	2.50	0.44
43:YY:33:LYS:HG3	43:YY:34:LYS:HD2	1.99	0.44
45:Y0:32:ARG:N	45:Y0:35:ASN:OD1	2.49	0.44
1:QA:337:C:H2'	1:QA:338:A:C8	2.53	0.44
1:QA:360:A:H2'	1:QA:361:G:C8	2.52	0.44
3:QC:189:ALA:O	3:QC:190:ARG:HD3	2.18	0.44
5:QE:78:HIS:HB3	8:QH:107:LEU:HD12	1.99	0.44
5:QE:121:LYS:HZ3	5:QE:122:GLU:H	1.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:94:ARG:NH1	7:QG:98:SER:OG	2.51	0.44
10:QJ:39:PRO:HA	10:QJ:70:ARG:HD3	2.00	0.44
14:QN:27:CYS:SG	14:QN:28:GLY:N	2.91	0.44
24:RA:307:G:C8	24:RA:307:G:C3'	3.00	0.44
24:RA:631:A:H5'	34:RP:65:ARG:HD3	2.00	0.44
24:RA:778:G:H5'	26:RD:48:ARG:HE	1.83	0.44
24:RA:864:G:H2'	24:RA:865:C:C6	2.53	0.44
24:RA:906:G:O2'	35:RQ:67:ARG:NH2	2.51	0.44
24:RA:1431:U:H2'	24:RA:1432:C:C6	2.53	0.44
24:RA:1467:C:H5	24:RA:1546:C:H2'	1.82	0.44
24:RA:2236:C:H2'	24:RA:2237:G:O4'	2.18	0.44
24:RA:2646:C:OP2	24:RA:2732:G:O2'	2.28	0.44
26:RD:85:ASP:OD2	26:RD:88:ARG:NH1	2.41	0.44
35:RQ:68:ILE:HD13	35:RQ:103:MET:HG2	2.00	0.44
40:RV:40:LEU:HD11	40:RV:47:VAL:HG12	1.99	0.44
1:XA:191(D):U:H2'	1:XA:191(E):G:C8	2.52	0.44
1:XA:299:G:H2'	1:XA:300:A:C8	2.53	0.44
1:XA:825:G:H2'	1:XA:826:C:C6	2.53	0.44
1:XA:952:U:H2'	1:XA:953:G:C8	2.53	0.44
1:XA:1502:A:H2'	1:XA:1504:G:N7	2.33	0.44
4:XD:13:ARG:HB2	4:XD:40:PRO:HD3	2.00	0.44
14:XN:46:GLU:HG3	14:XN:47:LEU:HD22	1.99	0.44
24:YA:71:A:N3	24:YA:73:A:N6	2.66	0.44
24:YA:922:U:H2'	24:YA:923:C:H6	1.83	0.44
24:YA:2549:G:H2'	24:YA:2550:G:H8	1.83	0.44
28:YF:125:LEU:HA	28:YF:194:MET:O	2.17	0.44
31:YI:14:ASP:O	31:YI:16:GLY:N	2.43	0.44
35:YQ:111:GLU:OE1	35:YQ:133:ARG:NH2	2.51	0.44
43:YY:37:VAL:HG11	43:YY:72:VAL:HG11	2.00	0.44
50:Y5:36:CYS:CB	50:Y5:49:CYS:HB3	2.48	0.44
1:QA:106:C:H2'	1:QA:107:G:C8	2.53	0.43
1:QA:484:G:H4'	1:QA:485:G:O5'	2.17	0.43
1:QA:575:G:O2'	1:QA:821:G:H5'	2.18	0.43
1:QA:1124:G:H3'	1:QA:1145:C:N4	2.33	0.43
1:QA:1249:C:O2'	9:QI:68:GLY:O	2.29	0.43
1:QA:1320:C:H2'	1:QA:1321:C:C6	2.53	0.43
1:QA:1329:A:H5''	13:QM:26:GLY:H	1.83	0.43
1:QA:1342:C:H1'	9:QI:124:GLN:HE22	1.83	0.43
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.18	0.43
1:QA:1510:U:H3	1:QA:1525:G:H1	1.65	0.43
1:QA:1516:G:N1	1:QA:1519:A:OP2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QK:121:PRO:O	11:QK:126:ARG:NH1	2.42	0.43
13:QM:22:ILE:N	13:QM:22:ILE:CD1	2.79	0.43
15:QO:33:THR:HG21	15:QO:85:LEU:HD12	1.99	0.43
24:RA:823:G:H2'	24:RA:824:A:C8	2.53	0.43
24:RA:1009:A:OP2	24:RA:1010:A:OP2	2.36	0.43
24:RA:1458:C:H4'	24:RA:1459:G:O4'	2.18	0.43
24:RA:1521:G:H5''	24:RA:1521:G:C8	2.49	0.43
24:RA:2676:C:H2'	24:RA:2677:G:H8	1.83	0.43
24:RA:2740:A:H2'	24:RA:2741:A:C8	2.52	0.43
1:XA:952:U:H2'	1:XA:953:G:H8	1.83	0.43
3:XC:58:GLU:HB2	3:XC:65:ALA:HB3	1.99	0.43
5:XE:12:LEU:HB3	5:XE:31:LEU:HB3	1.98	0.43
13:XM:105:THR:OG1	13:XM:106:ASN:N	2.42	0.43
14:XN:27:CYS:SG	14:XN:28:GLY:N	2.91	0.43
17:XQ:21:VAL:HG11	17:XQ:59:ILE:HG21	1.99	0.43
17:XQ:81:ARG:HA	17:XQ:81:ARG:HD3	1.72	0.43
18:XR:53:ARG:HA	18:XR:56:THR:HG22	2.00	0.43
19:XS:81:ARG:HA	19:XS:81:ARG:HD2	1.75	0.43
24:YA:52:A:OP2	24:YA:117:G:N1	2.49	0.43
24:YA:303:U:H2'	24:YA:304:G:C8	2.53	0.43
24:YA:1265:A:H8	24:YA:1265:A:OP1	2.01	0.43
24:YA:1267:U:H2'	24:YA:1268:A:H8	1.83	0.43
24:YA:2630:G:H2'	24:YA:2631:G:H8	1.82	0.43
25:YB:60:C:H2'	25:YB:61:G:H8	1.83	0.43
39:YU:87:GLY:O	40:YV:50:PRO:HD3	2.18	0.43
1:QA:538:G:H2'	1:QA:539:A:H8	1.83	0.43
1:QA:582:U:H5''	15:QO:68:ARG:HH22	1.83	0.43
1:QA:851:G:H2'	1:QA:852:G:C8	2.53	0.43
4:QD:20:TYR:HD2	4:QD:26:CYS:HB3	1.83	0.43
8:QH:7:ALA:HB2	8:QH:85:ARG:HD3	2.00	0.43
9:QI:4:TYR:HB2	9:QI:19:LEU:HB2	2.00	0.43
17:QQ:57:VAL:HG12	17:QQ:76:LEU:HA	2.01	0.43
24:RA:2731:G:OP1	27:RE:169:ASN:ND2	2.45	0.43
34:RP:97:PRO:HD3	34:RP:126:VAL:O	2.18	0.43
39:RU:50:ARG:O	39:RU:54:LYS:NZ	2.47	0.43
54:R9:11:CYS:HB2	54:R9:13:LYS:HD2	1.99	0.43
1:XA:298:A:H2'	1:XA:299:G:C8	2.53	0.43
1:XA:346:G:H1'	1:XA:347:G:H5'	2.01	0.43
1:XA:552:U:H2'	1:XA:553:A:H8	1.83	0.43
1:XA:806:C:H2'	1:XA:807:A:H8	1.82	0.43
1:XA:1022:G:H2'	1:XA:1023:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1425:U:H2'	1:XA:1426:C:H6	1.83	0.43
12:XL:32:PHE:HE1	12:XL:86:ARG:HG3	1.84	0.43
24:YA:34:C:H5'	24:YA:35:G:OP2	2.18	0.43
24:YA:640:C:H2'	24:YA:641:C:C6	2.53	0.43
24:YA:870:A:H2'	24:YA:871:U:O4'	2.18	0.43
24:YA:1062:G:H1	24:YA:1076:C:N4	2.16	0.43
24:YA:1161:C:H2'	24:YA:1162:G:C8	2.53	0.43
24:YA:1336:A:H2'	24:YA:1337:G:H8	1.82	0.43
24:YA:2138:C:H2'	24:YA:2139:C:C6	2.53	0.43
24:YA:2292:C:H2'	24:YA:2293:C:C6	2.52	0.43
29:YG:71:THR:N	29:YG:89:GLY:O	2.51	0.43
1:QA:269:C:H2'	1:QA:270:A:C8	2.52	0.43
1:QA:396:G:O2'	1:QA:398:C:OP1	2.26	0.43
1:QA:551:U:H2'	1:QA:552:U:C6	2.53	0.43
1:QA:923:A:O2'	1:QA:1399:C:OP2	2.31	0.43
1:QA:950:U:H2'	1:QA:951:G:C8	2.53	0.43
1:QA:1443:G:C6	38:RT:118:ARG:HB2	2.53	0.43
3:QC:39:ILE:O	3:QC:43:LEU:HG	2.18	0.43
6:QF:82:ARG:HG3	6:QF:84:ASN:H	1.83	0.43
8:QH:46:LYS:N	8:QH:64:LYS:HG3	2.33	0.43
14:QN:29:ARG:HH12	14:QN:41:ARG:H	1.66	0.43
15:QO:60:VAL:HA	15:QO:63:ARG:HG2	2.00	0.43
17:QQ:87:LYS:HE3	17:QQ:87:LYS:HB3	1.88	0.43
22:QV:22:A:H61	22:QV:47:G:H2'	1.82	0.43
24:RA:345:A:O2'	24:RA:347:A:N7	2.35	0.43
24:RA:2368:C:H2'	24:RA:2369:A:C8	2.51	0.43
32:RN:21:LYS:HB2	32:RN:26:LEU:HD12	2.00	0.43
33:RO:22:ILE:HB	33:RO:40:VAL:HG13	1.99	0.43
36:RR:3:HIS:O	36:RR:5:LYS:N	2.50	0.43
39:RU:87:GLY:O	40:RV:50:PRO:HD3	2.19	0.43
46:R1:53:VAL:HG13	46:R1:74:VAL:HG23	1.99	0.43
1:XA:992:U:O2'	1:XA:993:G:OP2	2.26	0.43
24:YA:244:A:O2'	34:YP:74:GLU:N	2.47	0.43
24:YA:297:C:H2'	24:YA:298:G:O4'	2.18	0.43
24:YA:468:G:H5''	28:YF:60:SER:HB2	2.00	0.43
24:YA:547:A:H2'	24:YA:548:A:C8	2.53	0.43
24:YA:881:G:H3'	24:YA:882:G:H8	1.83	0.43
24:YA:1193:G:H2'	24:YA:1194:A:C8	2.53	0.43
24:YA:1267:U:H2'	24:YA:1268:A:C8	2.53	0.43
24:YA:1400:G:H2'	24:YA:1401:G:C8	2.53	0.43
24:YA:1550:C:H2'	24:YA:1551:C:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2115:G:N2	24:YA:2165:G:N7	2.67	0.43
24:YA:2688:U:OP1	24:YA:2713:A:N6	2.51	0.43
29:YG:34:LEU:HD12	29:YG:172:LEU:HD21	2.00	0.43
29:YG:145:THR:O	29:YG:146:TYR:HB3	2.18	0.43
30:YH:102:ALA:HA	30:YH:117:PRO:HD3	2.01	0.43
1:QA:1202:G:C5	14:QN:42:ILE:HD13	2.52	0.43
7:QG:18:TYR:CG	7:QG:59:LEU:HD21	2.54	0.43
9:QI:91:ASP:OD2	9:QI:93:ARG:NH2	2.51	0.43
24:RA:270(H):C:H2'	24:RA:270(I):G:C8	2.54	0.43
24:RA:570:G:H2'	24:RA:2030:A:C6	2.53	0.43
24:RA:1796:U:H2'	24:RA:1797:C:H6	1.83	0.43
24:RA:1817:G:OP2	26:RD:157:ARG:NH2	2.51	0.43
24:RA:1941:C:N4	24:RA:1965:C:O4'	2.52	0.43
24:RA:2476:A:H2'	24:RA:2477:C:C6	2.53	0.43
44:RZ:149:SER:OG	44:RZ:150:LEU:N	2.50	0.43
44:RZ:182:LYS:O	44:RZ:182:LYS:NZ	2.42	0.43
1:XA:266:G:H5'	1:XA:268:C:H5	1.82	0.43
1:XA:339:C:H2'	1:XA:340:U:C6	2.54	0.43
1:XA:1013:G:N2	1:XA:1015:A:H3'	2.34	0.43
1:XA:1407:C:H2'	1:XA:1408:A:H8	1.83	0.43
2:XB:35:GLU:OE1	2:XB:36:ARG:N	2.51	0.43
4:XD:20:TYR:CD1	4:XD:20:TYR:O	2.71	0.43
4:XD:75:PHE:HE1	4:XD:97:LEU:HD21	1.83	0.43
4:XD:165:MET:HA	4:XD:168:ARG:HD3	2.00	0.43
15:XO:29:VAL:HG21	15:XO:81:LEU:HD21	2.00	0.43
24:YA:1429:G:H2'	24:YA:1430:C:C6	2.52	0.43
24:YA:1680:U:H2'	24:YA:1681:G:O4'	2.18	0.43
24:YA:1825:A:H2'	24:YA:1826:G:H8	1.83	0.43
24:YA:2340:G:H2'	24:YA:2341:G:C8	2.54	0.43
24:YA:2377:A:H4'	37:YS:111:GLU:O	2.18	0.43
26:YD:142:VAL:HG13	26:YD:193:VAL:HA	2.00	0.43
28:YF:40:GLN:HE22	28:YF:182:ASN:HB2	1.83	0.43
48:Y3:2:PRO:HG2	48:Y3:39:ASP:HB3	1.99	0.43
22:XV:1:C:H2'	22:XV:2:G:C8	2.54	0.43
1:QA:191(E):G:H2'	1:QA:191(F):U:C6	2.54	0.43
1:QA:327:A:O2'	1:QA:328:C:O4'	2.32	0.43
1:QA:628:G:H2'	1:QA:629:G:H8	1.82	0.43
1:QA:824:C:H2'	1:QA:825:G:H8	1.84	0.43
24:RA:476:G:N1	24:RA:479:A:OP2	2.51	0.43
24:RA:819:A:OP2	24:RA:1187:G:N2	2.48	0.43
24:RA:1357:U:H2'	24:RA:1358:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1478:G:H2'	24:RA:1479:G:H8	1.83	0.43
24:RA:2566:A:H4'	24:RA:2567:G:O5'	2.17	0.43
24:RA:2728:U:H2'	24:RA:2729:G:C8	2.53	0.43
41:RW:33:ARG:NE	41:RW:52:GLU:OE2	2.52	0.43
44:RZ:45:ASP:OD1	44:RZ:49:ARG:NE	2.51	0.43
1:XA:304:U:H2'	1:XA:305:G:C8	2.54	0.43
1:XA:514:C:H2'	1:XA:515:G:C8	2.50	0.43
1:XA:619:U:N3	4:XD:134:ASP:OD1	2.36	0.43
1:XA:703:G:H4'	1:XA:704:A:O5'	2.19	0.43
1:XA:1190:G:H3'	3:XC:3:ASN:ND2	2.34	0.43
1:XA:1502:A:H2	1:XA:1505:G:H1	1.66	0.43
8:XH:14:ARG:HB2	8:XH:83:ILE:HD11	2.00	0.43
13:XM:97:PRO:HG3	13:XM:110:ARG:HB3	2.00	0.43
24:YA:24:G:H1'	41:YW:77:ASP:HB3	2.00	0.43
24:YA:394:A:H2'	24:YA:395:U:O4'	2.18	0.43
24:YA:870:A:P	35:YQ:6:ARG:HH21	2.41	0.43
24:YA:1546:C:H5'	24:YA:1547:C:H5'	2.00	0.43
24:YA:2543:G:H2'	24:YA:2544:G:C8	2.54	0.43
24:YA:2777:G:OP2	24:YA:2781:A:O2'	2.36	0.43
25:YB:3:C:H2'	25:YB:4:C:H6	1.83	0.43
34:YP:90:ARG:HG3	34:YP:91:PHE:CD1	2.54	0.43
53:Y8:29:LYS:HB2	53:Y8:33:ASN:HD21	1.84	0.43
1:QA:277:C:H5'	17:QQ:68:ARG:HH22	1.84	0.43
1:QA:412:A:H4'	1:QA:413:G:O5'	2.18	0.43
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.19	0.43
7:QG:74:GLU:O	7:QG:76:ARG:NH1	2.51	0.43
8:QH:99:GLU:OE2	8:QH:99:GLU:N	2.51	0.43
24:RA:144:C:H2'	24:RA:145:G:H8	1.83	0.43
24:RA:186:G:H2'	24:RA:187:G:C8	2.54	0.43
24:RA:730:C:H2'	24:RA:731:C:H6	1.84	0.43
24:RA:807:U:H2'	24:RA:808:G:H8	1.83	0.43
24:RA:1035:U:H2'	24:RA:1036:G:H8	1.83	0.43
24:RA:1124:C:H2'	24:RA:1125:G:O4'	2.18	0.43
24:RA:1853:A:H2'	24:RA:1854:A:H8	1.84	0.43
24:RA:2018:G:H2'	24:RA:2019:A:C8	2.53	0.43
24:RA:2271:G:OP1	45:R0:18:ALA:HB1	2.18	0.43
24:RA:2784:C:H2'	24:RA:2785:C:H6	1.84	0.43
33:RO:68:GLU:HG3	33:RO:78:ARG:HD3	2.01	0.43
36:RR:12:ARG:O	36:RR:17:ARG:NH2	2.52	0.43
1:XA:115:G:C6	1:XA:313:A:N1	2.86	0.43
1:XA:401:C:H2'	1:XA:402:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:407:G:H5''	4:XD:115:ARG:HB3	2.01	0.43
1:XA:939:G:H2'	1:XA:940:C:C6	2.53	0.43
5:XE:39:GLY:HA2	5:XE:69:VAL:HB	2.00	0.43
8:XH:21:LYS:O	8:XH:65:TYR:OH	2.25	0.43
10:XJ:78:ASN:HB2	10:XJ:81:THR:HG23	2.01	0.43
24:YA:264:C:H2'	24:YA:265:A:H5''	2.00	0.43
24:YA:519:U:H2'	24:YA:520:G:C8	2.54	0.43
24:YA:839:U:H2'	24:YA:840:C:C6	2.54	0.43
24:YA:1035:U:H2'	24:YA:1036:G:C8	2.54	0.43
24:YA:1796:U:H2'	24:YA:1797:C:H6	1.82	0.43
24:YA:2356:C:H2'	24:YA:2357:U:O4'	2.19	0.43
24:YA:2443:C:H2'	24:YA:2444:G:C8	2.52	0.43
39:YU:62:ILE:HD11	39:YU:93:LYS:HD3	2.01	0.43
41:YW:110:LYS:HG3	41:YW:111:HIS:CD2	2.54	0.43
44:YZ:14:LYS:HA	44:YZ:15:PRO:HD3	1.86	0.43
44:YZ:158:PRO:HD2	44:YZ:161:VAL:HB	2.00	0.43
1:QA:345:C:H3'	38:RT:41:ARG:NH1	2.32	0.43
1:QA:745:C:H5''	1:QA:851:G:H1'	2.00	0.43
3:QC:18:TRP:O	3:QC:54:ARG:NH2	2.50	0.43
15:QO:24:SER:OG	15:QO:25:THR:N	2.50	0.43
22:QV:36:G:H2'	22:QV:37:G:C8	2.53	0.43
24:RA:263:C:H2'	24:RA:264:C:O4'	2.18	0.43
24:RA:1230:C:H2'	24:RA:1231:G:C8	2.53	0.43
24:RA:1536:A:H5''	24:RA:1537:C:C6	2.54	0.43
24:RA:2148:G:H2'	24:RA:2149:G:H8	1.84	0.43
24:RA:2344:U:OP1	51:R6:37:ARG:HD3	2.19	0.43
24:RA:2648:C:H2'	24:RA:2649:U:C6	2.53	0.43
25:RB:15:A:H5'	25:RB:16:G:C8	2.53	0.43
27:RE:24:THR:OG1	27:RE:186:GLY:HA2	2.19	0.43
32:RN:18:ALA:HA	32:RN:26:LEU:HD11	2.01	0.43
35:RQ:18:LYS:HE3	35:RQ:18:LYS:HB3	1.91	0.43
35:RQ:21:THR:HB	35:RQ:22:LYS:H	1.62	0.43
36:RR:45:ARG:HA	36:RR:95:THR:HG21	1.99	0.43
1:XA:87:A:H2'	1:XA:88:C:C6	2.52	0.43
1:XA:244:U:H4'	1:XA:245:C:O5'	2.19	0.43
1:XA:505:G:H2'	1:XA:506:G:H8	1.84	0.43
1:XA:674:G:H2'	1:XA:675:A:C8	2.43	0.43
1:XA:750:G:N3	15:XO:23:GLY:HA3	2.34	0.43
1:XA:1079:G:H2'	1:XA:1080:A:C8	2.54	0.43
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	2.00	0.43
8:XH:85:ARG:HA	8:XH:135:CYS:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:20:C:H2'	24:YA:21:A:H8	1.82	0.43
24:YA:184:C:O2'	24:YA:217:G:N3	2.49	0.43
24:YA:1062:G:N2	24:YA:1078:U:H1'	2.32	0.43
24:YA:1246:A:OP1	34:YP:15:ARG:NH2	2.40	0.43
24:YA:1278:A:H2'	24:YA:1279:G:H8	1.84	0.43
25:YB:86:G:H2'	25:YB:87:G:H8	1.82	0.43
1:QA:19:C:OP1	5:QE:127:ASN:HB2	2.18	0.43
1:QA:298:A:OP1	1:QA:298:A:C8	2.70	0.43
1:QA:1244:C:H2'	1:QA:1245:A:C8	2.54	0.43
2:QB:121:LEU:O	2:QB:124:SER:OG	2.37	0.43
4:QD:165:MET:HA	4:QD:168:ARG:HD3	2.00	0.43
12:QL:32:PHE:HE2	12:QL:86:ARG:HG3	1.82	0.43
13:QM:3:ARG:HG3	49:R4:34:GLU:HB3	2.01	0.43
24:RA:675:A:C8	24:RA:804:A:C6	3.06	0.43
24:RA:1638:C:C5'	24:RA:2710:C:O2'	2.63	0.43
24:RA:1657:C:O2'	27:RE:133:LYS:HG2	2.19	0.43
24:RA:1751:C:H2'	24:RA:1752:C:C6	2.54	0.43
24:RA:2635:C:H5''	27:RE:78:LEU:HA	1.99	0.43
24:RA:2868:A:H2'	24:RA:2869:G:C8	2.54	0.43
26:RD:9:TYR:CD2	26:RD:10:THR:HG23	2.53	0.43
32:RN:30:ILE:HG23	32:RN:52:VAL:HG11	2.01	0.43
1:XA:119:A:N7	1:XA:288:A:C6	2.87	0.43
1:XA:269:C:H2'	1:XA:270:A:C8	2.53	0.43
1:XA:345:C:H4'	1:XA:346:G:O5'	2.18	0.43
1:XA:413:G:OP2	1:XA:413:G:H8	2.02	0.43
1:XA:582:U:H2'	1:XA:583:A:C8	2.53	0.43
1:XA:639:G:H2'	1:XA:640:A:H8	1.83	0.43
10:XJ:8:LEU:HB2	10:XJ:70:ARG:HB2	2.00	0.43
10:XJ:53:PRO:HG2	10:XJ:54:PHE:CE2	2.53	0.43
13:XM:82:MET:HG2	13:XM:93:ARG:HG2	2.00	0.43
24:YA:37:C:H2'	24:YA:38:A:H8	1.84	0.43
24:YA:680:G:H2'	24:YA:681:G:H8	1.84	0.43
24:YA:1505:C:H2'	24:YA:1506:C:C6	2.53	0.43
26:YD:245:PRO:HA	26:YD:246:PRO:HD3	1.86	0.43
38:YT:24:PRO:HA	38:YT:49:VAL:HG13	2.01	0.43
48:Y3:37:LEU:HD13	48:Y3:37:LEU:HA	1.77	0.43
1:QA:318:G:H2'	1:QA:319:G:C8	2.54	0.43
1:QA:430:A:P	4:QD:8:VAL:H	2.42	0.43
1:QA:708:C:OP1	11:QK:85:ARG:NH2	2.43	0.43
1:QA:1481:U:H2'	1:QA:1482:G:H8	1.83	0.43
3:QC:59:ARG:HA	3:QC:63:ASN:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:109:PRO:O	3:QC:112:SER:OG	2.31	0.43
10:QJ:40:LEU:HD13	10:QJ:69:ASN:HB3	2.01	0.43
16:QP:74:LEU:HD12	16:QP:79:VAL:HG21	2.01	0.43
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.52	0.43
24:RA:839:U:H1'	24:RA:1191:G:H1'	2.01	0.43
24:RA:992:C:OP1	39:RU:47:TYR:OH	2.28	0.43
24:RA:1666:G:O2'	33:RO:6:THR:OG1	2.28	0.43
24:RA:1790:C:H5''	24:RA:1791:A:OP1	2.18	0.43
24:RA:2314:C:H5'	29:RG:38:VAL:HG11	2.01	0.43
24:RA:2478:A:H5'	54:R9:31:LYS:HG2	2.00	0.43
26:RD:44:ASN:HB2	26:RD:48:ARG:O	2.18	0.43
36:RR:97:VAL:HA	36:RR:113:LEU:O	2.19	0.43
40:RV:22:VAL:HG22	40:RV:23:GLU:H	1.84	0.43
44:RZ:48:PHE:HA	44:RZ:51:ALA:HB3	2.00	0.43
1:XA:636:U:H2'	1:XA:637:G:H8	1.83	0.43
1:XA:701:C:OP1	1:XA:702:A:O2'	2.23	0.43
1:XA:1022:G:H2'	1:XA:1023:G:C8	2.53	0.43
1:XA:1250:A:H2	1:XA:1370:G:H1'	1.84	0.43
4:XD:14:ARG:HD2	4:XD:40:PRO:HD2	2.00	0.43
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.18	0.43
8:XH:77:GLU:OE2	8:XH:81:HIS:NE2	2.47	0.43
16:XP:12:LYS:HB3	16:XP:12:LYS:HE3	1.90	0.43
16:XP:68:ASP:OD1	16:XP:69:THR:N	2.52	0.43
24:YA:20:C:H2'	24:YA:21:A:C8	2.54	0.43
24:YA:325:G:H2'	24:YA:326:G:H8	1.84	0.43
24:YA:1435:G:H2'	24:YA:1436:G:C8	2.54	0.43
34:YP:88:LEU:HD12	34:YP:95:VAL:HG21	2.00	0.43
39:YU:106:PHE:O	39:YU:110:VAL:HG23	2.19	0.43
45:Y0:21:LEU:HD11	45:Y0:41:ARG:HE	1.83	0.43
1:QA:1095:U:P	1:QA:1108:G:H1	2.41	0.43
1:QA:1224:G:H1	1:QA:1362(A):C:H42	1.66	0.43
1:QA:1516:G:N2	1:QA:1519:A:OP2	2.50	0.43
19:QS:32:LYS:HD3	19:QS:50:ALA:HB3	2.00	0.43
24:RA:305:U:H2'	24:RA:306:U:C6	2.54	0.43
24:RA:674:G:O2'	28:RF:67:GLN:NE2	2.46	0.43
24:RA:1771:C:H2'	24:RA:1772:G:H8	1.84	0.43
25:RB:83:G:H4'	48:R3:52:HIS:CG	2.54	0.43
35:RQ:32:TYR:CE1	35:RQ:133:ARG:HG3	2.54	0.43
38:RT:117:ASP:O	38:RT:121:ILE:HG12	2.19	0.43
1:XA:45:U:H3	1:XA:396:G:H1	1.66	0.43
1:XA:126:G:OP1	1:XA:605:U:O2'	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:857:C:H2'	1:XA:858:G:O4'	2.19	0.43
1:XA:1287:A:C2	1:XA:1353:G:H1'	2.53	0.43
15:XO:15:PHE:CE1	15:XO:84:LYS:HD3	2.54	0.43
24:YA:1164:G:H2'	24:YA:1165:U:C6	2.54	0.43
24:YA:1400:G:H2'	24:YA:1401:G:H8	1.83	0.43
24:YA:2701:C:C3'	24:YA:2702:U:H5''	2.39	0.43
49:Y4:10:VAL:HG21	49:Y4:29:PRO:HG3	2.01	0.43
49:Y4:14:ILE:HB	49:Y4:22:ILE:HB	2.00	0.43
22:XV:64:U:H2'	22:XV:65:C:C6	2.54	0.43
1:QA:410:G:N2	1:QA:432:A:H62	2.17	0.42
1:QA:768:A:H5'	1:QA:1524:C:H1'	2.00	0.42
1:QA:1126:U:H5	1:QA:1127:G:C4	2.37	0.42
1:QA:1400:C:N3	22:QV:35:C:O2	2.53	0.42
3:QC:79:ARG:NH2	3:QC:82:GLU:HG2	2.34	0.42
24:RA:303:U:H2'	24:RA:304:G:C8	2.53	0.42
24:RA:307:G:N2	24:RA:310:A:OP2	2.52	0.42
24:RA:637:A:H4'	24:RA:638:G:O5'	2.19	0.42
24:RA:689:A:H2'	24:RA:690:G:H8	1.84	0.42
24:RA:924:C:H2'	24:RA:925:C:C6	2.54	0.42
24:RA:1210:A:H5'	24:RA:1211:U:H2'	2.01	0.42
24:RA:1411:C:N4	24:RA:1591:G:H1	2.15	0.42
24:RA:1657:C:H2'	24:RA:1658:C:H6	1.84	0.42
24:RA:2637:U:H5''	27:RE:82:ARG:NH1	2.34	0.42
24:RA:2812:G:H2'	24:RA:2813:A:H8	1.83	0.42
40:RV:16:PRO:HD3	40:RV:99:ILE:HD11	2.01	0.42
40:RV:62:LEU:HB3	40:RV:93:GLU:HG2	2.00	0.42
47:R2:14:ARG:NH1	47:R2:66:GLU:OE1	2.51	0.42
49:R4:24:THR:OG1	49:R4:25:TYR:N	2.52	0.42
1:XA:19:C:H2'	1:XA:20:U:C6	2.54	0.42
1:XA:22:G:H4'	1:XA:885:G:C8	2.54	0.42
1:XA:489:C:H2'	1:XA:490:G:C8	2.53	0.42
12:XL:67:THR:OG1	12:XL:95:GLY:O	2.34	0.42
13:XM:70:LEU:HA	13:XM:73:GLU:HG2	2.00	0.42
24:YA:1595:G:H2'	24:YA:1596:A:C8	2.53	0.42
24:YA:1844:C:H2'	24:YA:1845:G:H8	1.84	0.42
24:YA:2065:C:H2'	24:YA:2066:C:H6	1.83	0.42
24:YA:2470:G:OP1	35:YQ:56:ARG:NH2	2.52	0.42
29:YG:32:PRO:HB3	29:YG:163:ALA:HB2	2.01	0.42
29:YG:52:ILE:HD12	29:YG:55:LYS:HB3	2.01	0.42
30:YH:54:ARG:HD3	30:YH:65:HIS:HD1	1.82	0.42
36:YR:2:ARG:HB3	36:YR:5:LYS:HE3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YU:39:LEU:HD23	39:YU:39:LEU:HA	1.89	0.42
1:QA:41:G:H2'	1:QA:42:G:C8	2.52	0.42
1:QA:315:A:H5''	1:QA:317:G:OP2	2.19	0.42
1:QA:452:A:H2'	1:QA:453:A:H8	1.83	0.42
1:QA:876:G:O5'	8:QH:14:ARG:NH1	2.52	0.42
1:QA:1071:C:H2'	1:QA:1072:G:C8	2.52	0.42
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.18	0.42
12:QL:111:LYS:H	12:QL:111:LYS:HG2	1.68	0.42
13:QM:56:LEU:O	13:QM:60:VAL:HG22	2.20	0.42
22:QV:20:G:H5'	22:QV:21:U:C5	2.54	0.42
24:RA:356:G:H2'	24:RA:357:A:C8	2.55	0.42
24:RA:1297:C:H2'	24:RA:1298:C:C6	2.54	0.42
24:RA:1401:G:H2'	24:RA:1402:C:C6	2.54	0.42
24:RA:2404:C:H1'	34:RP:67:MET:HE1	2.01	0.42
28:RF:65:TRP:NE1	28:RF:73:ALA:O	2.48	0.42
31:RI:33:ARG:HB2	31:RI:35:LEU:HD22	2.01	0.42
31:RI:122:GLU:OE1	31:RI:126:TYR:OH	2.37	0.42
44:RZ:145:GLU:HG3	44:RZ:146:ILE:H	1.83	0.42
48:R3:12:PRO:HB2	48:R3:20:LYS:HG2	2.01	0.42
1:XA:17:U:H2'	1:XA:18:C:H6	1.83	0.42
1:XA:328:C:H1'	1:XA:329:A:OP2	2.19	0.42
1:XA:337:C:H2'	1:XA:338:A:C8	2.54	0.42
1:XA:411:A:H62	1:XA:413:G:H21	1.67	0.42
1:XA:560:U:H4'	1:XA:561:U:H5''	2.01	0.42
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.42
7:XG:115:ARG:HB2	7:XG:118:VAL:HG12	2.01	0.42
24:YA:138:G:H22	42:YX:44:GLU:CD	2.23	0.42
24:YA:242:G:H4'	24:YA:243:U:O5'	2.19	0.42
24:YA:278:A:O2'	24:YA:279:C:O4'	2.33	0.42
24:YA:338:G:OP1	43:YY:4:LYS:NZ	2.52	0.42
24:YA:863:A:H2'	24:YA:864:G:C8	2.54	0.42
24:YA:1309:G:H4'	52:Y7:7:PRO:HB2	2.01	0.42
24:YA:1430:C:H2'	24:YA:1431:U:C6	2.54	0.42
24:YA:1693:U:O2	26:YD:14:ARG:NH1	2.53	0.42
24:YA:1771:C:O2'	24:YA:1786:A:O4'	2.35	0.42
24:YA:1790:C:H5''	24:YA:1791:A:OP1	2.18	0.42
24:YA:2185:C:H2'	24:YA:2186:G:H8	1.83	0.42
26:YD:31:LYS:HD3	26:YD:31:LYS:HA	1.85	0.42
27:YE:143:ASN:HB2	27:YE:147:PRO:HD2	2.00	0.42
28:YF:198:ALA:HA	28:YF:201:VAL:HG12	2.02	0.42
44:YZ:30:ASN:OD1	44:YZ:33:LEU:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y2:16:LEU:HD22	47:Y2:21:LEU:HD13	2.01	0.42
48:Y3:4:LEU:HD12	48:Y3:39:ASP:HB2	2.01	0.42
1:QA:806:C:H2'	1:QA:807:A:C8	2.48	0.42
1:QA:1427:U:H2'	1:QA:1428:A:C8	2.53	0.42
24:RA:532:A:H4'	24:RA:533:G:C8	2.54	0.42
24:RA:689:A:H2'	24:RA:690:G:C8	2.55	0.42
24:RA:1165:U:H2'	24:RA:1166:C:H6	1.84	0.42
24:RA:1332:G:H8	24:RA:1332:G:H2'	1.65	0.42
24:RA:1468:C:H2'	24:RA:1469:A:C8	2.53	0.42
24:RA:2123:G:H2'	24:RA:2124:G:H8	1.83	0.42
24:RA:2133:G:H1'	24:RA:2158:A:N6	2.34	0.42
24:RA:2695:C:H2'	24:RA:2696:U:C6	2.55	0.42
25:RB:8:U:H3	25:RB:112:G:H1	1.66	0.42
26:RD:50:THR:OG1	26:RD:51:VAL:N	2.51	0.42
1:XA:166:G:H2'	1:XA:167:G:H8	1.84	0.42
1:XA:347:G:O2'	1:XA:348:G:H5''	2.19	0.42
1:XA:575:G:O2'	1:XA:821:G:H5'	2.19	0.42
8:XH:59:LEU:HD13	8:XH:59:LEU:HA	1.81	0.42
9:XI:112:LYS:HA	9:XI:119:ALA:HB2	2.01	0.42
24:YA:521:G:H2'	24:YA:522:G:C8	2.53	0.42
24:YA:875:G:H2'	24:YA:876:C:C6	2.54	0.42
24:YA:882:G:H2'	24:YA:883:G:C8	2.54	0.42
24:YA:1670:C:H5'	24:YA:1671:U:OP2	2.19	0.42
24:YA:2119:A:H61	24:YA:2168:G:N2	2.18	0.42
29:YG:37:VAL:HG13	29:YG:159:VAL:HG12	2.00	0.42
29:YG:47:LYS:HB3	29:YG:81:LYS:HD2	2.02	0.42
33:YO:73:ASP:OD1	33:YO:75:SER:OG	2.32	0.42
35:YQ:32:TYR:CE1	35:YQ:133:ARG:HG3	2.54	0.42
44:YZ:70:LEU:HB2	44:YZ:91:LEU:HD21	2.01	0.42
1:QA:165:C:H2'	1:QA:166:G:C8	2.51	0.42
1:QA:192:U:H2'	1:QA:193:C:H6	1.83	0.42
1:QA:255:G:H2'	1:QA:256:U:C6	2.54	0.42
1:QA:645:C:H2'	1:QA:646:U:C6	2.55	0.42
1:QA:686:U:H1'	11:QK:42:TRP:NE1	2.34	0.42
1:QA:1286:A:H2'	1:QA:1287:A:H4'	2.01	0.42
8:QH:34:GLU:HB3	8:QH:118:VAL:HG11	2.02	0.42
24:RA:96:G:H4'	47:R2:48:HIS:CD2	2.54	0.42
24:RA:270(V):G:H2'	24:RA:270(W):G:H8	1.84	0.42
24:RA:1499:C:H2'	24:RA:1500:G:H8	1.83	0.42
24:RA:2573:C:OP1	24:RA:2574:G:OP1	2.37	0.42
35:RQ:67:ARG:O	35:RQ:101:ARG:NH2	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:RY:82:PRO:O	43:RY:101:LYS:NZ	2.50	0.42
1:XA:62:U:H3	1:XA:105:G:H1	1.67	0.42
1:XA:598:U:H4'	8:XH:94:TYR:CG	2.53	0.42
1:XA:1244:C:H2'	1:XA:1245:A:H8	1.84	0.42
4:XD:20:TYR:HA	4:XD:26:CYS:SG	2.59	0.42
5:XE:78:HIS:HB3	8:XH:107:LEU:HD22	2.00	0.42
18:XR:44:LEU:HD12	18:XR:44:LEU:HA	1.93	0.42
19:XS:65:ASN:O	49:Y4:58:ARG:HD2	2.19	0.42
24:YA:263:C:H2'	24:YA:264:C:O4'	2.20	0.42
24:YA:448:U:C4	24:YA:583:G:H1'	2.54	0.42
24:YA:562:U:H6	24:YA:562:U:H2'	1.64	0.42
24:YA:1182:A:H2'	24:YA:1183:G:C8	2.55	0.42
24:YA:1348:G:H2'	24:YA:1349:A:H5''	2.01	0.42
24:YA:1637:A:H2'	24:YA:1638:C:C6	2.54	0.42
24:YA:2081:C:H2'	24:YA:2082:A:H8	1.84	0.42
24:YA:2635:C:OP1	27:YE:78:LEU:HD13	2.20	0.42
24:YA:2852:G:H2'	24:YA:2853:C:C6	2.54	0.42
30:YH:153:LYS:HB2	30:YH:162:ILE:HD12	2.00	0.42
32:YN:47:ALA:O	32:YN:119:ARG:NH1	2.52	0.42
33:YO:19:ILE:HG22	33:YO:43:VAL:HG12	2.01	0.42
39:YU:90:VAL:HG11	40:YV:40:LEU:HG	2.02	0.42
53:Y8:61:LEU:HA	53:Y8:61:LEU:HD23	1.75	0.42
2:QB:60:ASP:HB3	2:QB:64:ARG:HH12	1.85	0.42
24:RA:180:G:OP1	52:R7:32:LYS:HG3	2.20	0.42
24:RA:519:U:H2'	24:RA:520:G:C8	2.55	0.42
24:RA:764:A:O2'	24:RA:765:G:H5'	2.20	0.42
24:RA:863:A:H2'	24:RA:864:G:C8	2.55	0.42
24:RA:922:U:H2'	24:RA:923:C:H6	1.84	0.42
24:RA:1161:C:H2'	24:RA:1162:G:C8	2.53	0.42
24:RA:1336:A:H2'	24:RA:1337:G:H8	1.84	0.42
24:RA:2597:G:H2'	24:RA:2598:A:C8	2.54	0.42
25:RB:44:G:H5''	25:RB:45:A:OP1	2.18	0.42
27:RE:46:ALA:HB1	27:RE:80:GLU:HB3	2.02	0.42
28:RF:157:VAL:HG11	28:RF:181:LEU:HD21	2.02	0.42
41:RW:76:VAL:HG22	41:RW:103:ILE:HA	2.02	0.42
1:XA:41:G:H2'	1:XA:42:G:C8	2.54	0.42
1:XA:78:G:H3'	1:XA:79:G:C8	2.54	0.42
1:XA:583:A:H2'	1:XA:584:G:O4'	2.20	0.42
1:XA:707:C:H2'	1:XA:708:C:C6	2.54	0.42
1:XA:848:C:H2'	1:XA:849:C:H6	1.84	0.42
1:XA:1172:C:H2'	1:XA:1173:G:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1305:G:OP1	21:XU:2:GLY:HA2	2.18	0.42
8:XH:121:ASP:OD1	8:XH:122:ARG:N	2.50	0.42
24:YA:414:C:O2	24:YA:1864:U:O2'	2.36	0.42
24:YA:1508:A:O2'	24:YA:1509:C:O5'	2.37	0.42
26:YD:95:LEU:HD23	26:YD:95:LEU:HA	1.88	0.42
1:QA:753:A:H4'	1:QA:754:C:O5'	2.18	0.42
1:QA:1298:C:H4'	1:QA:1299:A:C8	2.55	0.42
14:QN:9:LYS:O	14:QN:19:ARG:NH2	2.52	0.42
23:QX:19:C:H6	23:QX:19:C:O5'	2.02	0.42
24:RA:24:G:O2'	41:RW:78:GLU:O	2.34	0.42
24:RA:709:U:H2'	24:RA:710:G:C8	2.53	0.42
24:RA:1405:U:H2'	24:RA:1406:U:C6	2.52	0.42
24:RA:1923:U:H2'	24:RA:1924:C:C6	2.55	0.42
24:RA:2327:A:N7	24:RA:2388:A:N6	2.68	0.42
24:RA:2404:C:H2'	24:RA:2405:G:O4'	2.19	0.42
24:RA:2790:A:H2'	24:RA:2791:C:H5''	2.02	0.42
30:RH:144:VAL:O	30:RH:148:ILE:HD12	2.20	0.42
30:RH:153:LYS:HB3	30:RH:161:GLY:HA2	2.00	0.42
38:RT:8:LYS:HA	38:RT:11:GLU:OE2	2.19	0.42
38:RT:123:GLN:HB3	38:RT:124:ASP:H	1.50	0.42
44:RZ:4:ARG:HG2	44:RZ:58:VAL:HB	2.00	0.42
1:XA:191(D):U:H2'	1:XA:191(E):G:H8	1.84	0.42
1:XA:192:U:H2'	1:XA:193:C:C6	2.54	0.42
1:XA:281:G:OP2	1:XA:281:G:H8	2.03	0.42
1:XA:300:A:O2'	1:XA:564:C:N3	2.43	0.42
3:XC:3:ASN:HB3	3:XC:4:LYS:HD2	2.01	0.42
4:XD:79:PHE:HZ	4:XD:204:ILE:HG13	1.85	0.42
5:XE:32:VAL:HG11	5:XE:55:VAL:HG23	2.02	0.42
11:XK:19:ALA:O	11:XK:82:VAL:HA	2.20	0.42
15:XO:57:LEU:HA	15:XO:60:VAL:HG12	2.01	0.42
18:XR:86:VAL:HG12	18:XR:87:ARG:HG2	2.02	0.42
20:XT:51:GLU:HA	20:XT:54:LYS:HG2	2.00	0.42
24:YA:1818:U:H2'	26:YD:157:ARG:HG2	2.02	0.42
24:YA:2112:G:O6	24:YA:2169:A:N6	2.53	0.42
24:YA:2676:C:H2'	24:YA:2677:G:C8	2.54	0.42
32:YN:6:PRO:HG3	32:YN:41:ASP:HB2	2.01	0.42
41:YW:17:VAL:HG13	41:YW:76:VAL:HG21	2.01	0.42
1:QA:126:G:OP1	1:QA:605:U:O2'	2.21	0.42
1:QA:164:U:H2'	1:QA:165:C:H6	1.84	0.42
1:QA:308:C:H2'	1:QA:309:G:C8	2.55	0.42
1:QA:812:C:H6	1:QA:812:C:H2'	1.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:979:C:OP1	1:QA:1223:C:N4	2.52	0.42
1:QA:1064:G:OP2	1:QA:1385:G:O2'	2.25	0.42
1:QA:1189:C:H5''	3:QC:5:ILE:HG21	2.02	0.42
1:QA:1322:C:H6	1:QA:1322:C:OP1	2.02	0.42
1:QA:1524:C:H2'	1:QA:1525:G:C8	2.55	0.42
2:QB:178:ARG:NH2	2:QB:196:LEU:O	2.52	0.42
10:QJ:13:HIS:HB3	10:QJ:68:HIS:ND1	2.34	0.42
10:QJ:41:PRO:O	10:QJ:43:ARG:NH1	2.53	0.42
12:QL:76:ASN:OD1	12:QL:76:ASN:N	2.52	0.42
16:QP:67:THR:HG22	16:QP:68:ASP:N	2.34	0.42
22:QV:2:G:H2'	22:QV:3:G:H8	1.85	0.42
24:RA:857:C:OP1	45:R0:69:PHE:HD2	2.02	0.42
24:RA:1258:C:H2'	24:RA:1259:G:C8	2.55	0.42
24:RA:1752:C:H2'	24:RA:1753:G:C8	2.54	0.42
24:RA:2081:C:H2'	24:RA:2082:A:C8	2.54	0.42
24:RA:2448:A:OP2	24:RA:2499:C:OP2	2.37	0.42
24:RA:2462:U:H2'	24:RA:2463:C:C6	2.55	0.42
24:RA:2514:U:H2'	24:RA:2515:C:H6	1.85	0.42
1:XA:328:C:H4'	1:XA:329:A:O5'	2.20	0.42
1:XA:784:C:H4'	24:YA:1837:C:OP1	2.20	0.42
1:XA:1308:U:H2'	1:XA:1309:G:C8	2.55	0.42
1:XA:1513:A:H2'	1:XA:1514:C:H6	1.85	0.42
2:XB:185:ILE:HA	2:XB:199:TYR:O	2.19	0.42
7:XG:103:TRP:CD2	7:XG:137:LYS:HD3	2.54	0.42
11:XK:67:ASP:O	11:XK:71:LYS:HG2	2.20	0.42
11:XK:86:GLY:O	11:XK:91:ARG:NH1	2.50	0.42
13:XM:10:PRO:HG3	13:XM:22:ILE:HD11	2.00	0.42
16:XP:26:ARG:HA	16:XP:26:ARG:HD3	1.94	0.42
23:XX:1:G:H2'	23:XX:2:G:C8	2.53	0.42
24:YA:630:G:N2	24:YA:633:A:OP2	2.26	0.42
24:YA:813:U:H2'	24:YA:814:C:C6	2.55	0.42
24:YA:1454:U:O2'	24:YA:1455:G:N7	2.41	0.42
24:YA:2384:G:OP2	45:Y0:55:ARG:NH2	2.52	0.42
26:YD:79:VAL:HG21	26:YD:111:LEU:HD11	2.01	0.42
27:YE:174:ASP:HB3	27:YE:183:LEU:HD12	2.01	0.42
32:YN:114:ARG:H	32:YN:114:ARG:HG2	1.63	0.42
1:QA:35:G:H2'	1:QA:36:C:C6	2.55	0.42
1:QA:784:C:H4'	24:RA:1837:C:OP1	2.20	0.42
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.54	0.42
24:RA:30:G:H2'	24:RA:31:C:C6	2.55	0.42
24:RA:935:C:H2'	24:RA:936:C:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:947:G:H2'	24:RA:948:G:C8	2.55	0.42
24:RA:1166:C:H2'	24:RA:1167:U:C6	2.55	0.42
24:RA:1191:G:P	34:RP:18:ARG:HH22	2.42	0.42
24:RA:1667:G:H8	24:RA:1667:G:OP2	2.03	0.42
24:RA:2385:C:H2'	24:RA:2386:C:C6	2.55	0.42
24:RA:2503:A:O2'	24:RA:2505:G:OP2	2.28	0.42
26:RD:71:ASP:HB2	26:RD:103:ARG:HH12	1.84	0.42
30:RH:154:PRO:HG3	30:RH:162:ILE:HG13	2.01	0.42
32:RN:16:ILE:HG21	32:RN:26:LEU:HD21	2.00	0.42
34:RP:94:GLU:O	34:RP:96:THR:HG23	2.19	0.42
38:RT:111:ARG:O	38:RT:112:ARG:HB3	2.20	0.42
1:XA:62:U:H2'	1:XA:63:C:C6	2.54	0.42
1:XA:565:U:OP2	1:XA:566:G:O2'	2.19	0.42
1:XA:1145:C:H4'	1:XA:1146:A:H5'	2.01	0.42
1:XA:1250:A:N3	1:XA:1370:G:O2'	2.40	0.42
24:YA:210:C:H2'	24:YA:211:A:C8	2.55	0.42
24:YA:637:A:H4'	24:YA:638:G:O5'	2.19	0.42
24:YA:1057:A:N6	24:YA:1087:G:OP2	2.52	0.42
24:YA:1258:C:H2'	24:YA:1259:G:C8	2.55	0.42
24:YA:1593:G:H2'	24:YA:1594:G:H8	1.84	0.42
24:YA:1794:U:H2'	24:YA:1795:C:C6	2.55	0.42
24:YA:2576:G:O2'	24:YA:2579:C:OP2	2.31	0.42
24:YA:2593:U:H2'	24:YA:2594:C:C6	2.55	0.42
24:YA:2657:A:H1'	24:YA:2665:A:N6	2.35	0.42
24:YA:2880:C:O3'	36:YR:90:ARG:NH1	2.52	0.42
28:YF:186:ILE:HG23	28:YF:192:LEU:HD12	2.02	0.42
29:YG:166:ASP:OD1	29:YG:166:ASP:N	2.53	0.42
33:YO:22:ILE:HB	33:YO:40:VAL:HG23	2.01	0.42
35:YQ:29:PHE:N	35:YQ:105:GLU:OE2	2.34	0.42
1:QA:335:C:H2'	1:QA:336:C:H6	1.85	0.42
1:QA:963:G:H21	10:QJ:55:LYS:HE2	1.85	0.42
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.55	0.42
12:QL:59:ARG:NH1	12:QL:60:LEU:O	2.53	0.42
14:QN:29:ARG:HH22	14:QN:41:ARG:HG2	1.85	0.42
19:QS:80:TYR:HD2	19:QS:82:GLY:H	1.68	0.42
21:QU:25:LYS:HE2	21:QU:25:LYS:HB2	1.82	0.42
22:QV:55:U:H2'	22:QV:56:U:C6	2.54	0.42
24:RA:51:G:OP2	24:RA:51:G:H8	2.03	0.42
24:RA:78:A:H2'	24:RA:79:G:C8	2.55	0.42
24:RA:270(R):G:H2'	24:RA:270(S):G:C8	2.55	0.42
24:RA:582:G:H2'	24:RA:583:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:660:G:H4'	28:RF:38:ARG:NH1	2.35	0.42
24:RA:671:C:H2'	24:RA:672:C:C6	2.55	0.42
24:RA:760:G:H2'	24:RA:761:A:O4'	2.19	0.42
24:RA:2097:C:H2'	24:RA:2098:U:C6	2.55	0.42
30:RH:149:ARG:NH2	30:RH:167:GLU:OE2	2.48	0.42
32:RN:23:LEU:HD13	32:RN:60:ILE:HD12	2.02	0.42
1:XA:218:C:H2'	1:XA:219:C:C6	2.55	0.42
1:XA:261:U:H3	1:XA:263:A:H3'	1.85	0.42
1:XA:358:U:C6	1:XA:358:U:C3'	3.03	0.42
1:XA:359:U:H5''	1:XA:360:A:OP2	2.20	0.42
1:XA:382:A:H2'	1:XA:383:A:H8	1.84	0.42
1:XA:563:A:H2'	1:XA:567:G:C8	2.55	0.42
1:XA:781:A:H4'	1:XA:1522:U:O2'	2.20	0.42
11:XK:22:HIS:HB3	11:XK:29:ILE:HG23	2.00	0.42
12:XL:77:LEU:HD21	12:XL:107:ALA:HB2	2.00	0.42
17:XQ:6:LEU:HD13	17:XQ:6:LEU:HA	1.87	0.42
24:YA:315:G:H2'	24:YA:316:C:C6	2.55	0.42
24:YA:896:A:O2'	44:YZ:176:PRO:HG3	2.20	0.42
24:YA:1438:U:H2'	24:YA:1439:A:C8	2.54	0.42
24:YA:1841:U:H2'	24:YA:1842:G:H8	1.84	0.42
26:YD:25:THR:O	26:YD:27:THR:N	2.51	0.42
38:YT:124:ASP:OD1	38:YT:124:ASP:N	2.49	0.42
1:QA:407:G:H2'	1:QA:408:A:H8	1.83	0.42
1:QA:920:U:H2'	1:QA:921:U:C6	2.55	0.42
1:QA:1268:A:H1'	1:QA:1326:C:O2'	2.20	0.42
12:QL:69:TYR:O	12:QL:100:ILE:HG22	2.20	0.42
20:QT:43:LEU:HB3	20:QT:52:ALA:HB2	2.01	0.42
22:QV:65:C:H2'	22:QV:66:U:C6	2.54	0.42
24:RA:20:C:H2'	24:RA:21:A:C8	2.55	0.42
24:RA:347:A:H2'	24:RA:348:G:H8	1.85	0.42
24:RA:1568:G:H5''	26:RD:61:LEU:HG	2.01	0.42
24:RA:1756:G:H4'	24:RA:1758:G:O4'	2.20	0.42
26:RD:39:LYS:HE2	26:RD:60:ARG:HB2	2.02	0.42
27:RE:9:VAL:HB	27:RE:25:VAL:HG23	2.01	0.42
1:XA:358:U:C6	1:XA:358:U:H3'	2.55	0.42
1:XA:537:G:H2'	1:XA:538:G:H8	1.85	0.42
1:XA:584:G:H2'	1:XA:585:G:H8	1.85	0.42
1:XA:1121:U:H2'	1:XA:1122:U:C6	2.55	0.42
1:XA:1352:C:H2'	1:XA:1353:G:C8	2.55	0.42
1:XA:1496:C:H2'	1:XA:1497:G:C8	2.54	0.42
5:XE:83:GLU:HG2	5:XE:88:LYS:HG3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:17:VAL:O	13:XM:20:THR:OG1	2.22	0.42
24:YA:111:A:H4'	47:Y2:69:ARG:NH2	2.34	0.42
24:YA:466:A:N3	24:YA:683:C:H1'	2.35	0.42
24:YA:572:A:OP2	40:YV:78:LYS:NZ	2.49	0.42
24:YA:580:C:H2'	24:YA:581:C:C6	2.55	0.42
24:YA:841:A:H2'	24:YA:842:G:C8	2.55	0.42
24:YA:1756:G:H4'	24:YA:1758:G:O4'	2.19	0.42
24:YA:1771:C:H2'	24:YA:1772:G:C8	2.55	0.42
24:YA:1796:U:H2'	24:YA:1797:C:C6	2.55	0.42
24:YA:2020:A:N7	50:Y5:9:LYS:NZ	2.63	0.42
24:YA:2487:G:H2'	24:YA:2488:A:C8	2.55	0.42
38:YT:26:ASP:HB2	38:YT:90:GLN:O	2.20	0.42
22:XV:35:C:H2'	22:XV:36:G:C8	2.55	0.42
1:QA:647:C:H2'	1:QA:648:A:C8	2.54	0.41
1:QA:881:G:P	12:QL:12:ARG:HH22	2.43	0.41
1:QA:1244:C:H2'	1:QA:1245:A:H8	1.84	0.41
1:QA:1391:U:H2'	1:QA:1392:G:H8	1.85	0.41
1:QA:1500:A:OP1	1:QA:1505:G:OP1	2.38	0.41
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.01	0.41
3:QC:118:GLN:O	3:QC:122:GLU:HG3	2.20	0.41
18:QR:73:ALA:HB1	18:QR:78:LEU:HD12	2.02	0.41
24:RA:108:U:H2'	24:RA:109:G:C8	2.55	0.41
24:RA:1467:C:C5	24:RA:1546:C:H2'	2.55	0.41
24:RA:1812:A:H2'	24:RA:1813:G:C8	2.55	0.41
24:RA:2467:C:OP1	54:R9:6:SER:OG	2.33	0.41
27:RE:49:LEU:HD13	27:RE:49:LEU:HA	1.90	0.41
30:RH:25:LYS:HZ2	30:RH:26:VAL:H	1.66	0.41
32:RN:47:ALA:O	32:RN:119:ARG:NH1	2.53	0.41
33:RO:19:ILE:HG22	33:RO:43:VAL:HA	2.01	0.41
42:RX:72:LYS:NZ	42:RX:75:ASP:OD1	2.39	0.41
1:XA:18:C:H5''	5:XE:127:ASN:HD21	1.84	0.41
1:XA:97:U:H2'	1:XA:99:C:H6	1.85	0.41
1:XA:269:C:H2'	1:XA:270:A:H8	1.85	0.41
1:XA:412:A:H4'	1:XA:413:G:O5'	2.19	0.41
1:XA:570:G:H2'	1:XA:571:U:C6	2.55	0.41
1:XA:587:G:N2	1:XA:754:C:OP2	2.53	0.41
1:XA:1161:C:O2'	1:XA:1162:C:H5'	2.20	0.41
1:XA:1220:G:N2	19:XS:54:GLY:O	2.52	0.41
1:XA:1371:G:O3'	9:XI:69:GLY:HA3	2.18	0.41
2:XB:76:GLN:HE22	2:XB:206:ASP:HB3	1.84	0.41
3:XC:132:ARG:O	3:XC:136:GLN:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:12:LEU:HD12	7:XG:13:GLN:H	1.84	0.41
24:YA:265:A:H61	24:YA:427:U:HO2'	1.68	0.41
24:YA:1609:A:C6	24:YA:1616:A:C5	3.07	0.41
24:YA:1613:G:O2'	52:Y7:3:ARG:NE	2.53	0.41
24:YA:2735:G:H2'	24:YA:2736:G:C8	2.55	0.41
34:YP:33:ARG:HD3	34:YP:40:SER:HA	2.02	0.41
22:XV:19:G:H8	22:XV:19:G:OP1	2.03	0.41
1:QA:231:G:H2'	1:QA:232:G:H8	1.84	0.41
1:QA:1064:G:HO2'	1:QA:1065:U:P	2.44	0.41
6:QF:50:TYR:CE1	18:QR:77:GLY:HA2	2.55	0.41
8:QH:53:VAL:HB	8:QH:58:TYR:HD1	1.85	0.41
12:QL:39:VAL:HG12	12:QL:57:LYS:HB3	2.02	0.41
22:QV:64:U:H2'	22:QV:65:C:C6	2.56	0.41
24:RA:38:A:H2'	24:RA:39:C:C6	2.54	0.41
24:RA:78:A:H2'	24:RA:79:G:H8	1.84	0.41
24:RA:663:G:H2'	24:RA:664:C:C6	2.55	0.41
24:RA:1114:G:H2'	24:RA:1115:G:H8	1.85	0.41
24:RA:1164:G:H2'	24:RA:1165:U:C6	2.55	0.41
24:RA:1173:G:H4'	24:RA:1174:A:N7	2.34	0.41
24:RA:1314:C:OP1	24:RA:1332:G:OP1	2.38	0.41
24:RA:1658:C:H2'	24:RA:1659:U:C6	2.55	0.41
24:RA:1902:C:OP1	26:RD:242:ARG:NH1	2.53	0.41
24:RA:2529:G:O6	54:R9:31:LYS:NZ	2.53	0.41
28:RF:67:GLN:HG3	28:RF:67:GLN:O	2.20	0.41
28:RF:122:LYS:HB3	28:RF:191:ARG:HA	2.00	0.41
29:RG:124:SER:OG	29:RG:124:SER:O	2.30	0.41
30:RH:58:GLU:OE1	30:RH:59:ARG:NH1	2.53	0.41
33:RO:50:GLY:H	33:RO:53:LYS:HZ3	1.66	0.41
45:R0:38:VAL:HB	45:R0:59:LEU:HB2	2.02	0.41
47:R2:21:LEU:HB3	47:R2:64:LEU:HD12	2.02	0.41
1:XA:339:C:H2'	1:XA:340:U:H6	1.85	0.41
1:XA:1141:C:H2'	1:XA:1142:G:C8	2.50	0.41
1:XA:1253:G:H4'	10:XJ:46:ARG:HH22	1.85	0.41
1:XA:1429:C:H2'	1:XA:1430:C:C6	2.55	0.41
24:YA:108:U:H2'	24:YA:109:G:H8	1.85	0.41
24:YA:1268:A:OP1	24:YA:2006:C:OP1	2.37	0.41
24:YA:1355:G:H2'	24:YA:1356:G:H8	1.85	0.41
24:YA:1604:C:H2'	24:YA:1605:C:H6	1.84	0.41
24:YA:1888:G:OP2	24:YA:1888:G:N2	2.53	0.41
24:YA:2365:G:O6	53:Y8:43:GLN:NE2	2.53	0.41
24:YA:2566:A:H4'	24:YA:2567:G:O5'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2712:U:O2'	24:YA:2712(A):A:OP1	2.38	0.41
27:YE:12:THR:OG1	27:YE:13:ARG:N	2.53	0.41
34:YP:49:ARG:HG3	53:Y8:59:LYS:NZ	2.35	0.41
39:YU:58:ARG:O	39:YU:62:ILE:HG12	2.20	0.41
1:QA:10:A:H2'	1:QA:11:G:C8	2.55	0.41
1:QA:627:G:H2'	1:QA:628:G:H8	1.86	0.41
1:QA:812:C:H1'	1:QA:813:U:OP2	2.20	0.41
1:QA:940:C:H2'	1:QA:941:G:C8	2.55	0.41
1:QA:950:U:H2'	1:QA:951:G:H8	1.85	0.41
7:QG:30:ILE:HG23	7:QG:39:ALA:HB1	2.02	0.41
24:RA:302:C:H2'	24:RA:303:U:C6	2.55	0.41
24:RA:532:A:N1	24:RA:2035:G:N2	2.68	0.41
24:RA:903:C:H2'	24:RA:904:C:H6	1.86	0.41
24:RA:1289:C:H2'	24:RA:1290:C:C6	2.54	0.41
24:RA:1794:U:H2'	24:RA:1795:C:H6	1.84	0.41
24:RA:2036:C:H2'	24:RA:2037:G:H8	1.85	0.41
24:RA:2619:C:H5''	27:RE:152:LYS:HA	2.01	0.41
25:RB:109:G:H2'	25:RB:110:G:H8	1.85	0.41
30:RH:86:GLU:HB3	30:RH:165:ALA:H	1.85	0.41
1:XA:408:A:OP2	4:XD:115:ARG:NH2	2.53	0.41
1:XA:663:A:H2'	1:XA:664:G:C8	2.55	0.41
1:XA:762:C:H2'	1:XA:763:G:C8	2.54	0.41
1:XA:913:A:H1'	1:XA:914:A:OP2	2.19	0.41
1:XA:1245:A:H2'	1:XA:1246:C:C6	2.55	0.41
1:XA:1336:C:H1'	1:XA:1337:G:C2	2.55	0.41
17:XQ:81:ARG:NH1	17:XQ:83:ASP:OD2	2.53	0.41
18:XR:58:LEU:HD12	18:XR:62:GLU:HB3	2.01	0.41
24:YA:279:C:H2'	24:YA:280:C:H6	1.85	0.41
24:YA:1065:U:H1'	24:YA:1074:G:H22	1.85	0.41
24:YA:1535:U:N3	24:YA:1537:C:H1'	2.35	0.41
24:YA:1728:G:H3'	24:YA:1729:A:C5'	2.50	0.41
24:YA:1748:G:H2'	24:YA:1749:A:H8	1.86	0.41
24:YA:1791:A:H3'	24:YA:1792:G:H8	1.86	0.41
24:YA:2342:C:O2'	24:YA:2374:C:H5''	2.20	0.41
24:YA:2540:C:H2'	24:YA:2541:A:O4'	2.20	0.41
24:YA:2783:G:H2'	24:YA:2784:C:C6	2.56	0.41
31:YI:78:THR:HG22	31:YI:141:LYS:HE2	2.01	0.41
1:QA:33:A:H2'	1:QA:34:C:C6	2.55	0.41
1:QA:108:G:H5''	1:QA:109:A:H5''	2.03	0.41
1:QA:137:C:H2'	1:QA:138:G:C8	2.54	0.41
1:QA:619:U:N3	4:QD:134:ASP:OD1	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.55	0.41
1:QA:1330:U:OP2	1:QA:1330:U:H6	2.03	0.41
3:QC:124:ILE:HD12	3:QC:130:VAL:HG12	2.03	0.41
12:QL:33:ARG:NH2	12:QL:61:THR:OG1	2.54	0.41
19:QS:32:LYS:HB3	19:QS:57:HIS:CE1	2.56	0.41
24:RA:208:C:H2'	24:RA:209:C:H6	1.85	0.41
24:RA:680:G:H2'	24:RA:681:G:H8	1.85	0.41
24:RA:1220:A:H5'	24:RA:1221:C:OP2	2.20	0.41
24:RA:1550:C:H2'	24:RA:1551:C:H6	1.84	0.41
24:RA:2133:G:N7	24:RA:2157:G:N1	2.68	0.41
24:RA:2210:G:H5'	24:RA:2211:G:C5	2.55	0.41
24:RA:2773:C:OP1	27:RE:164:ARG:NE	2.52	0.41
24:RA:2823:A:OP1	27:RE:113:PHE:HB2	2.21	0.41
25:RB:16:G:H2'	25:RB:17:C:C6	2.55	0.41
28:RF:122:LYS:HB3	28:RF:191:ARG:HG3	2.02	0.41
29:RG:81:LYS:O	29:RG:82:LEU:HB2	2.20	0.41
36:RR:22:ARG:HG2	36:RR:69:ASP:HB3	2.03	0.41
41:RW:86:LEU:HD12	41:RW:96:ILE:HD11	2.02	0.41
41:RW:111:HIS:HD2	41:RW:113:LYS:H	1.68	0.41
1:XA:604:G:H2'	1:XA:605:U:C6	2.55	0.41
1:XA:911:U:H2'	1:XA:912:C:C6	2.55	0.41
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.81	0.41
17:XQ:69:LYS:HD2	17:XQ:69:LYS:HA	1.81	0.41
20:XT:92:LEU:HD13	20:XT:92:LEU:HA	1.83	0.41
21:XU:12:LYS:HG2	21:XU:22:ARG:HB3	2.02	0.41
24:YA:142:G:H2'	24:YA:143:C:C6	2.56	0.41
24:YA:229:A:OP1	24:YA:229:A:H4'	2.15	0.41
24:YA:440:G:H2'	24:YA:441:U:C6	2.55	0.41
24:YA:463:G:N2	24:YA:466:A:OP2	2.51	0.41
24:YA:524:U:H2'	24:YA:525:U:C6	2.55	0.41
24:YA:1791:A:N6	24:YA:1828:G:O2'	2.46	0.41
24:YA:1799:G:H5''	24:YA:1800:C:C5	2.55	0.41
24:YA:1812:A:H2'	24:YA:1813:G:C8	2.54	0.41
24:YA:2567:G:H2'	24:YA:2568:C:C6	2.55	0.41
24:YA:2685:G:P	38:YT:51:ARG:HH22	2.43	0.41
24:YA:2703:C:H2'	24:YA:2704:C:H6	1.85	0.41
26:YD:69:ARG:HD2	26:YD:105:ILE:HD13	2.02	0.41
36:YR:91:GLN:OE1	36:YR:91:GLN:N	2.53	0.41
47:Y2:42:GLY:O	47:Y2:44:LEU:N	2.45	0.41
49:Y4:46:GLN:C	49:Y4:48:ARG:H	2.24	0.41
1:QA:407:G:H2'	1:QA:408:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:513:C:H2'	1:QA:514:C:C6	2.55	0.41
1:QA:1100:C:OP2	2:QB:96:ARG:HD3	2.20	0.41
4:QD:68:TYR:HD2	4:QD:97:LEU:HD12	1.86	0.41
12:QL:93:LEU:HD13	12:QL:93:LEU:HA	1.85	0.41
23:QX:15:A:H4'	23:QX:16:A:OP2	2.19	0.41
24:RA:321:G:OP2	28:RF:135:LYS:HD3	2.21	0.41
24:RA:1400:G:H2'	24:RA:1401:G:H8	1.85	0.41
24:RA:1551:C:H2'	24:RA:1552:G:O4'	2.20	0.41
24:RA:1656:C:H2'	24:RA:1657:C:H6	1.85	0.41
24:RA:2060:A:H4'	24:RA:2061:G:OP2	2.21	0.41
24:RA:2649:U:H2'	24:RA:2650:U:C6	2.56	0.41
29:RG:15:VAL:HG11	29:RG:176:LEU:HD22	2.02	0.41
45:R0:68:GLU:OE2	45:R0:82:ARG:NH1	2.53	0.41
53:R8:50:LEU:HD12	53:R8:51:ALA:H	1.84	0.41
1:XA:325:A:OP2	20:XT:70:SER:OG	2.18	0.41
1:XA:370:C:H2'	1:XA:371:G:C8	2.56	0.41
1:XA:437:U:H2'	1:XA:438:G:O4'	2.21	0.41
1:XA:481:G:O2'	1:XA:482:A:C8	2.72	0.41
1:XA:485:G:HO2'	1:XA:486:U:P	2.44	0.41
14:YN:32:SER:HB3	14:YN:41:ARG:HD2	2.02	0.41
14:YN:34:TYR:HD1	14:YN:44:LEU:HD21	1.86	0.41
24:YA:286:C:H2'	24:YA:287:C:H6	1.86	0.41
24:YA:465:G:H21	24:YA:684:G:H1'	1.84	0.41
24:YA:546:C:H5''	24:YA:547:A:N7	2.36	0.41
24:YA:774:A:H2	24:YA:787:U:HO2'	1.65	0.41
24:YA:1539:G:H2'	24:YA:1540:G:H8	1.84	0.41
24:YA:1588:C:H2'	24:YA:1589:C:C6	2.55	0.41
24:YA:1821:A:H2'	24:YA:1822:G:C8	2.55	0.41
24:YA:2065:C:H2'	24:YA:2066:C:C6	2.55	0.41
24:YA:2448:A:OP2	24:YA:2499:C:P	2.79	0.41
24:YA:2514:U:H2'	24:YA:2515:C:H6	1.85	0.41
24:YA:2611:U:P	24:YA:2611:U:H3'	2.61	0.41
24:YA:2773:C:H2'	24:YA:2774:C:H6	1.85	0.41
26:YD:77:ALA:HB3	26:YD:117:VAL:HG13	2.02	0.41
29:YG:27:ASN:OD1	29:YG:28:VAL:N	2.53	0.41
37:YS:66:ALA:HA	37:YS:69:VAL:HG12	2.02	0.41
40:YV:14:VAL:HB	40:YV:96:ILE:HG13	2.01	0.41
4:QD:116:GLN:O	4:QD:120:LEU:HG	2.21	0.41
4:QD:191:ARG:HD2	4:QD:192:GLU:N	2.35	0.41
16:QP:69:THR:O	16:QP:73:LEU:HD23	2.21	0.41
24:RA:407:G:H2'	24:RA:408:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:690:G:H2'	24:RA:691:C:C6	2.56	0.41
24:RA:1065:U:H5''	24:RA:1066:U:C6	2.55	0.41
24:RA:1561:G:H2'	24:RA:1562:A:C8	2.55	0.41
27:RE:144:ARG:HB3	27:RE:145:LYS:H	1.77	0.41
29:RG:176:LEU:HD13	29:RG:176:LEU:HA	1.89	0.41
31:RI:93:THR:OG1	31:RI:94:ALA:N	2.53	0.41
41:RW:36:LEU:HD13	41:RW:47:VAL:HG23	2.02	0.41
1:XA:7:G:H5'	1:XA:298:A:O4'	2.20	0.41
1:XA:1454:G:H2'	1:XA:1455:G:H8	1.86	0.41
10:XJ:39:PRO:HA	10:XJ:70:ARG:NE	2.36	0.41
10:XJ:48:THR:HG23	10:XJ:62:HIS:HB3	2.03	0.41
10:XJ:79:ARG:HA	10:XJ:82:ILE:HB	2.02	0.41
15:XO:43:LEU:HD11	24:YA:715:G:H22	1.85	0.41
24:YA:514:A:H2'	24:YA:515:A:C8	2.55	0.41
24:YA:907:U:O2'	35:YQ:101:ARG:NH2	2.51	0.41
24:YA:1291:C:H2'	24:YA:1292:U:C6	2.55	0.41
24:YA:1825:A:H2'	24:YA:1826:G:C8	2.56	0.41
24:YA:2318:G:N2	37:YS:3:ARG:HE	2.18	0.41
24:YA:2514:U:H3	24:YA:2570:G:H1	1.66	0.41
30:YH:119:GLU:O	30:YH:140:LYS:NZ	2.39	0.41
34:YP:6:LEU:HD13	34:YP:6:LEU:HA	1.91	0.41
46:Y1:53:VAL:C	46:Y1:55:GLY:H	2.23	0.41
1:QA:404:U:H5''	4:QD:122:ARG:HH11	1.86	0.41
1:QA:584:G:H2'	1:QA:585:G:H8	1.85	0.41
1:QA:587:G:OP1	8:QH:92:ARG:NH2	2.48	0.41
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.56	0.41
1:QA:1336:C:O2'	1:QA:1337:G:O5'	2.37	0.41
1:QA:1351:U:H3	1:QA:1371:G:H1	1.68	0.41
3:QC:150:LYS:HB2	3:QC:201:TYR:HB2	2.03	0.41
7:QG:62:PHE:HA	7:QG:124:LEU:HD12	2.03	0.41
7:QG:115:ARG:HB3	7:QG:118:VAL:HG22	2.02	0.41
13:QM:23:TYR:HD2	13:QM:67:GLU:HA	1.86	0.41
20:QT:54:LYS:NZ	20:QT:100:ILE:HG21	2.36	0.41
24:RA:309:G:H8	24:RA:309:G:P	2.44	0.41
24:RA:407:G:H2'	24:RA:408:G:H8	1.86	0.41
24:RA:415:A:H2'	24:RA:416:C:H6	1.85	0.41
24:RA:448:U:C4	24:RA:583:G:H1'	2.56	0.41
24:RA:623:G:H2'	24:RA:624:C:C6	2.55	0.41
24:RA:807:U:O2'	24:RA:2060:A:N1	2.44	0.41
24:RA:1562:A:H2'	24:RA:1563:G:C8	2.56	0.41
24:RA:1600:C:OP1	42:RX:58:HIS:NE2	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1653:G:H1'	24:RA:1654:A:OP2	2.21	0.41
24:RA:2347:C:HO2'	51:R6:21:TYR:HH	1.59	0.41
24:RA:2648:C:H2'	24:RA:2649:U:H6	1.86	0.41
30:RH:4:ILE:HB	30:RH:6:ARG:NH1	2.35	0.41
30:RH:30:LYS:HA	30:RH:30:LYS:HD2	1.80	0.41
1:XA:93:U:H2'	1:XA:95:G:O4'	2.20	0.41
1:XA:1229:A:O2'	22:XV:31:C:OP1	2.37	0.41
1:XA:1408:A:C6	1:XA:1494:G:N1	2.89	0.41
8:XH:69:ARG:NH2	8:XH:75:ARG:O	2.54	0.41
10:XJ:34:VAL:HG12	10:XJ:74:ILE:HG12	2.02	0.41
10:XJ:62:HIS:ND1	14:XN:59:ALA:HB3	2.34	0.41
12:XL:85:ILE:HD12	12:XL:85:ILE:HA	1.98	0.41
24:YA:78:A:H2'	24:YA:79:G:H8	1.85	0.41
24:YA:147:U:H2'	24:YA:148:C:C6	2.56	0.41
24:YA:740:U:H2'	24:YA:741:G:H8	1.86	0.41
24:YA:742:G:H2'	24:YA:743:G:C8	2.55	0.41
24:YA:962:G:H2'	24:YA:963:U:C6	2.56	0.41
24:YA:1131:G:H4'	32:YN:82:LEU:HD12	2.01	0.41
24:YA:1614:A:C6	41:YW:91:GLY:HA2	2.56	0.41
24:YA:1754:C:H5'	38:YT:101:PHE:CZ	2.56	0.41
24:YA:2105:C:H2'	24:YA:2106:G:C8	2.55	0.41
25:YB:83:G:H4'	48:Y3:52:HIS:CG	2.55	0.41
28:YF:24:LEU:HD23	28:YF:115:ALA:HA	2.02	0.41
34:YP:94:GLU:O	34:YP:96:THR:HG23	2.21	0.41
35:YQ:116:GLU:OE2	35:YQ:119:ARG:NH2	2.38	0.41
44:YZ:118:GLN:HG2	44:YZ:120:ILE:HD13	2.02	0.41
1:QA:272:C:H2'	1:QA:273:A:C8	2.50	0.41
1:QA:309:G:H2'	1:QA:310:G:H8	1.86	0.41
1:QA:343:U:O2	1:QA:347:G:C6	2.74	0.41
1:QA:674:G:H2'	1:QA:675:A:C8	2.43	0.41
1:QA:1059:C:H2'	1:QA:1060:C:C6	2.55	0.41
1:QA:1129:C:H4'	1:QA:1130:A:H8	1.85	0.41
1:QA:1191:A:H5''	3:QC:4:LYS:HE3	2.03	0.41
1:QA:1384:C:H2'	1:QA:1385:G:H8	1.85	0.41
6:QF:46:ARG:HH21	18:QR:37:VAL:HG11	1.85	0.41
8:QH:38:ILE:HG21	8:QH:111:ILE:HD13	2.03	0.41
9:QI:3:GLN:HG3	9:QI:20:ARG:HD3	2.02	0.41
9:QI:4:TYR:CE1	9:QI:87:GLN:HG3	2.55	0.41
13:QM:17:VAL:HA	13:QM:20:THR:CG2	2.51	0.41
18:QR:70:ILE:O	18:QR:74:ARG:HB2	2.20	0.41
24:RA:935:C:H2'	24:RA:936:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1278:A:H2'	24:RA:1279:G:C8	2.55	0.41
24:RA:1656:C:P	27:RE:136:ARG:HE	2.43	0.41
24:RA:1952:A:N3	24:RA:2560:C:O2'	2.40	0.41
24:RA:2037:G:H2'	24:RA:2038:G:H8	1.85	0.41
24:RA:2065:C:H2'	24:RA:2066:C:H6	1.86	0.41
24:RA:2314:C:H2'	24:RA:2315:G:C8	2.56	0.41
24:RA:2728:U:H2'	24:RA:2729:G:H8	1.85	0.41
24:RA:2863:C:H2'	24:RA:2864:G:H8	1.86	0.41
24:RA:2891:G:H5'	24:RA:2892:A:OP1	2.21	0.41
24:RA:2892:A:H2'	24:RA:2893:G:O4'	2.20	0.41
27:RE:34:VAL:HG21	27:RE:77:ILE:HD11	2.01	0.41
28:RF:198:ALA:N	28:RF:200:GLU:OE2	2.53	0.41
29:RG:133:LEU:HD23	29:RG:133:LEU:HA	1.93	0.41
34:RP:138:LEU:HD21	34:RP:144:GLU:HB3	2.03	0.41
1:XA:195:A:H2'	1:XA:196:A:C4	2.55	0.41
1:XA:247:G:OP2	17:XQ:100:LYS:HG3	2.21	0.41
1:XA:1095:U:P	1:XA:1108:G:H1	2.43	0.41
1:XA:1280:A:P	10:XJ:40:LEU:HD21	2.61	0.41
1:XA:1409:C:H2'	1:XA:1410:G:C8	2.54	0.41
2:XB:161:ALA:HA	2:XB:183:PRO:O	2.21	0.41
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.86	0.41
9:XI:10:ARG:NH1	9:XI:75:ASP:OD1	2.54	0.41
11:XK:120:ARG:HA	11:XK:121:PRO:HD3	1.88	0.41
14:YN:47:LEU:HD13	14:YN:50:LYS:HD3	2.02	0.41
20:XT:61:SER:O	20:XT:65:LYS:HG3	2.21	0.41
24:YA:84:A:OP2	43:YY:8:LYS:NZ	2.48	0.41
24:YA:108:U:H2'	24:YA:109:G:C8	2.55	0.41
24:YA:278:A:H2'	24:YA:279:C:C6	2.56	0.41
24:YA:1111:A:OP1	30:YH:3:ARG:NH2	2.53	0.41
24:YA:1252:G:H1	39:YU:37:GLU:HG3	1.85	0.41
24:YA:1293:C:H2'	24:YA:1294:U:C6	2.56	0.41
24:YA:1423:G:H2'	24:YA:1424:G:H8	1.85	0.41
24:YA:2229:C:H2'	24:YA:2230:G:H8	1.85	0.41
46:Y1:5:CYS:HG	46:Y1:8:SER:HG	1.67	0.41
1:QA:17:U:H2'	1:QA:18:C:H6	1.86	0.41
1:QA:279:A:OP1	1:QA:280:C:O2'	2.23	0.41
1:QA:404:U:H2'	1:QA:405:U:H6	1.86	0.41
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.54	0.41
1:QA:924:C:H2'	1:QA:925:G:H8	1.85	0.41
1:QA:954:G:H21	1:QA:1227:A:H62	1.67	0.41
1:QA:1277:C:O2'	1:QA:1279:A:H8	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:115:LEU:HD13	2:QB:145:LEU:HG	2.02	0.41
4:QD:98:GLU:HA	4:QD:103:ASN:ND2	2.35	0.41
5:QE:94:ALA:HB2	5:QE:119:LEU:HG	2.03	0.41
7:QG:92:SER:O	7:QG:96:GLN:HG3	2.21	0.41
13:QM:51:ALA:HA	13:QM:54:VAL:HG12	2.03	0.41
16:QP:53:VAL:HG13	16:QP:79:VAL:HG22	2.02	0.41
20:QT:54:LYS:HZ1	20:QT:100:ILE:HG21	1.85	0.41
24:RA:52:A:H2'	24:RA:53:A:C8	2.56	0.41
24:RA:99:U:H4'	24:RA:101:G:O5'	2.19	0.41
24:RA:270(Y):G:H2'	24:RA:270(Z):U:C6	2.56	0.41
24:RA:297:C:OP1	43:RY:87:LYS:HE3	2.20	0.41
24:RA:811:U:H2'	34:RP:21:ARG:O	2.21	0.41
24:RA:1568:G:OP2	26:RD:63:ARG:NH2	2.48	0.41
24:RA:1680:U:H2'	24:RA:1681:G:O4'	2.20	0.41
24:RA:1889:A:H2'	24:RA:1890:A:C8	2.56	0.41
24:RA:2020:A:H5'	50:R5:12:SER:HB3	2.02	0.41
24:RA:2342:C:O2'	24:RA:2374:C:H5''	2.20	0.41
24:RA:2345:G:O2'	24:RA:2381:C:O2	2.32	0.41
24:RA:2600:A:H2'	24:RA:2601:C:C6	2.56	0.41
24:RA:2618:G:H21	27:RE:150:VAL:HG21	1.85	0.41
24:RA:2676:C:H2'	24:RA:2677:G:C8	2.56	0.41
24:RA:2747:G:H21	24:RA:2757:A:N6	2.13	0.41
24:RA:2841:C:H2'	24:RA:2842:G:C8	2.56	0.41
25:RB:28:C:H2'	25:RB:29:A:H8	1.86	0.41
26:RD:83:GLU:HB2	26:RD:92:ILE:HD11	2.03	0.41
27:RE:92:THR:OG1	27:RE:93:VAL:N	2.53	0.41
28:RF:116:ASP:OD1	28:RF:119:ARG:NH2	2.54	0.41
29:RG:60:LEU:HD22	29:RG:68:PRO:HB3	2.03	0.41
30:RH:62:LYS:HB3	30:RH:62:LYS:HE2	1.91	0.41
34:RP:101:VAL:HB	34:RP:106:LEU:HB2	2.03	0.41
39:RU:91:ASP:C	39:RU:93:LYS:H	2.24	0.41
43:RY:17:SER:OG	43:RY:71:LYS:NZ	2.41	0.41
43:RY:63:LYS:HD3	43:RY:64:GLU:N	2.36	0.41
51:R6:23:THR:OG1	51:R6:24:GLU:N	2.54	0.41
1:XA:536:C:H2'	1:XA:537:G:H8	1.85	0.41
1:XA:582:U:H2'	1:XA:583:A:H8	1.85	0.41
1:XA:646:U:H2'	1:XA:647:C:C6	2.56	0.41
1:XA:923:A:H2'	1:XA:924:C:C6	2.56	0.41
1:XA:986:A:H4'	19:XS:55:LYS:NZ	2.36	0.41
1:XA:1029:G:O2'	1:XA:1032(A):G:N2	2.38	0.41
1:XA:1187:G:H5'	1:XA:1188:A:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1388:C:H2'	1:XA:1389:C:C6	2.56	0.41
1:XA:1515:C:H2'	1:XA:1516:G:C8	2.56	0.41
2:XB:27:LYS:HD2	2:XB:27:LYS:HA	1.83	0.41
2:XB:47:THR:O	2:XB:51:LEU:HG	2.19	0.41
2:XB:114:ARG:HA	2:XB:114:ARG:HD2	1.83	0.41
4:XD:108:LEU:HD23	4:XD:174:LEU:HD13	2.02	0.41
4:XD:126:ILE:HG22	4:XD:146:ILE:HD11	2.03	0.41
12:XL:62:SER:O	12:XL:62:SER:OG	2.34	0.41
17:XQ:19:VAL:HG23	17:XQ:44:ALA:HB3	2.02	0.41
17:XQ:50:LYS:HE3	17:XQ:51:TYR:CZ	2.55	0.41
24:YA:110:G:H2'	24:YA:111:A:H8	1.86	0.41
24:YA:137(A):G:H2'	24:YA:139:G:N7	2.36	0.41
24:YA:265:A:N6	24:YA:427:U:HO2'	2.19	0.41
24:YA:447:A:C4'	24:YA:449:A:N7	2.83	0.41
24:YA:642:G:H21	24:YA:646:A:H2	1.67	0.41
24:YA:669:G:H2'	24:YA:669:G:N3	2.36	0.41
24:YA:729:G:OP2	26:YD:13:ARG:HD3	2.21	0.41
24:YA:781:A:OP1	26:YD:218:ARG:NH2	2.54	0.41
24:YA:936:C:H2'	24:YA:937:U:C6	2.56	0.41
24:YA:1079:C:H2'	24:YA:1080:C:C6	2.55	0.41
24:YA:1167:U:H2'	24:YA:1168:G:H8	1.86	0.41
24:YA:1709:U:H2'	24:YA:1710:C:C6	2.56	0.41
24:YA:1710:C:H2'	24:YA:1711:C:H6	1.86	0.41
24:YA:1790:C:H2'	24:YA:1791:A:C5	2.56	0.41
24:YA:1820:U:C2	26:YD:202:LYS:HB2	2.56	0.41
24:YA:1871:A:H8	24:YA:1871:A:OP2	2.04	0.41
24:YA:2291:U:O2'	24:YA:2374:C:O2	2.39	0.41
24:YA:2695:C:H2'	24:YA:2696:U:C6	2.56	0.41
24:YA:2712:U:H6	24:YA:2712:U:H2'	1.65	0.41
24:YA:2788:C:H4'	24:YA:2809:A:O2'	2.21	0.41
29:YG:43:LEU:HD13	29:YG:43:LEU:HA	1.91	0.41
30:YH:86:GLU:HB3	30:YH:165:ALA:H	1.86	0.41
33:YO:88:ASN:HD21	33:YO:92:GLU:HB2	1.86	0.41
44:YZ:24:LEU:HD21	44:YZ:86:VAL:HG13	2.03	0.41
49:Y4:49:PHE:H	49:Y4:49:PHE:HD2	1.68	0.41
1:QA:17:U:H2'	1:QA:18:C:C6	2.56	0.41
1:QA:163:C:H2'	1:QA:164:U:H6	1.86	0.41
1:QA:192:U:H2'	1:QA:193:C:C6	2.56	0.41
1:QA:1150:U:O4	1:QA:1151:A:N6	2.54	0.41
1:QA:1342:C:H1'	9:QI:124:GLN:NE2	2.36	0.41
1:QA:1347:G:O6	9:QI:10:ARG:NH2	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1404:C:H2'	1:QA:1405:G:C8	2.55	0.41
4:QD:119:GLN:HA	4:QD:122:ARG:HG2	2.02	0.41
5:QE:91:LEU:HD13	5:QE:120:THR:HG22	2.02	0.41
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	2.02	0.41
13:QM:66:LEU:HD13	13:QM:66:LEU:HA	1.72	0.41
17:QQ:45:HIS:CD2	17:QQ:47:PRO:HG3	2.56	0.41
24:RA:93:C:H2'	24:RA:94:G:O4'	2.21	0.41
24:RA:280:C:H2'	24:RA:281:G:O4'	2.21	0.41
24:RA:1106:G:H2'	24:RA:1107:G:C8	2.56	0.41
24:RA:1184:G:OP1	48:R3:29:ARG:NH1	2.54	0.41
24:RA:1657:C:H2'	24:RA:1658:C:C6	2.55	0.41
27:RE:20:ALA:N	33:RO:72:PRO:O	2.48	0.41
30:RH:107:VAL:HG21	30:RH:151:ILE:HG21	2.02	0.41
33:RO:22:ILE:HG13	33:RO:41:ALA:HA	2.02	0.41
35:RQ:122:GLY:HA2	35:RQ:129:THR:HG21	2.03	0.41
43:RY:53:PRO:C	43:RY:55:TYR:H	2.24	0.41
44:RZ:35:ARG:HD3	44:RZ:35:ARG:HA	1.86	0.41
44:RZ:131:ARG:HD2	44:RZ:131:ARG:H	1.85	0.41
45:R0:70:GLN:O	45:R0:78:TYR:N	2.51	0.41
46:R1:82:LEU:HD23	46:R1:82:LEU:HA	1.97	0.41
1:XA:363:A:H2'	1:XA:364:A:C8	2.56	0.41
1:XA:406:G:H2'	1:XA:407:G:H8	1.84	0.41
1:XA:738:C:H2'	1:XA:739:C:C6	2.56	0.41
1:XA:958:A:C6	19:XS:55:LYS:HB2	2.55	0.41
1:XA:1061:G:OP1	10:XJ:59:SER:OG	2.37	0.41
1:XA:1145:C:H4'	1:XA:1146:A:H8	1.86	0.41
1:XA:1427:U:H2'	1:XA:1428:A:H8	1.86	0.41
3:XC:184:TYR:HD2	3:XC:201:TYR:HE2	1.69	0.41
24:YA:1566:A:OP2	26:YD:211:ARG:NH2	2.47	0.41
24:YA:1728:G:H3'	24:YA:1729:A:H5''	2.02	0.41
24:YA:2734:A:H5'	24:YA:2735:G:OP2	2.20	0.41
24:YA:2823:A:OP1	27:YE:113:PHE:HB2	2.21	0.41
25:YB:44:G:H5''	25:YB:45:A:OP1	2.21	0.41
29:YG:107:LEU:HD21	29:YG:178:PHE:CE1	2.56	0.41
30:YH:19:VAL:HA	30:YH:24:VAL:HG12	2.04	0.41
32:YN:30:ILE:HG22	32:YN:34:LEU:HD23	2.02	0.41
42:YX:35:THR:O	42:YX:39:ILE:HG13	2.21	0.41
46:Y1:49:VAL:HG11	46:Y1:70:VAL:HG11	2.02	0.41
51:Y6:44:ARG:O	51:Y6:45:LYS:HD3	2.21	0.41
1:QA:167:G:H2'	1:QA:168:G:H8	1.86	0.40
1:QA:321:A:H2'	1:QA:322:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1059:C:H2'	1:QA:1060:C:H6	1.86	0.40
1:QA:1314:C:N4	19:QS:2:PRO:O	2.54	0.40
1:QA:1414:U:H2'	1:QA:1415:G:C8	2.54	0.40
2:QB:16:HIS:HD2	2:QB:210:SER:HA	1.85	0.40
6:QF:94:GLN:OE1	18:QR:32:ARG:NH1	2.49	0.40
12:QL:27:LEU:HD12	12:QL:27:LEU:HA	1.82	0.40
12:QL:104:VAL:HG12	12:QL:107:ALA:HB3	2.04	0.40
20:QT:81:LYS:O	20:QT:85:MET:HG2	2.20	0.40
24:RA:142:G:H2'	24:RA:143:C:H6	1.86	0.40
24:RA:270(W):G:H2'	24:RA:270(X):G:C8	2.56	0.40
24:RA:455:C:O2'	24:RA:456:C:H5'	2.21	0.40
24:RA:519:U:H2'	24:RA:520:G:H8	1.86	0.40
25:RB:42:C:O2	29:RG:93:THR:N	2.45	0.40
25:RB:86:G:H2'	25:RB:87:G:H8	1.86	0.40
30:RH:55:PRO:HG2	30:RH:61:HIS:CE1	2.56	0.40
35:RQ:62:GLY:HA3	35:RQ:107:ALA:O	2.21	0.40
37:RS:25:ARG:HB3	37:RS:40:ILE:HG23	2.02	0.40
40:RV:24:LYS:HA	40:RV:92:THR:HG23	2.02	0.40
42:RX:21:PHE:HE1	42:RX:92:LEU:HB3	1.86	0.40
49:R4:16:CYS:SG	49:R4:17:GLY:N	2.95	0.40
1:XA:105:G:H2'	1:XA:106:C:C6	2.56	0.40
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.56	0.40
1:XA:1310:G:HO2'	1:XA:1311:G:P	2.44	0.40
5:XE:147:ASP:O	5:XE:151:LEU:HD23	2.21	0.40
14:XN:43:CYS:C	14:XN:45:ARG:H	2.25	0.40
24:YA:286:C:H2'	24:YA:287:C:C6	2.56	0.40
24:YA:327:G:H2'	24:YA:328:U:C6	2.55	0.40
24:YA:1411:C:H3'	24:YA:1412:A:H8	1.86	0.40
24:YA:1444:G:H2'	24:YA:1445:C:C5	2.56	0.40
24:YA:2323:G:H1	24:YA:2332:U:H3	1.68	0.40
24:YA:2339:G:H2'	24:YA:2340:G:C8	2.57	0.40
24:YA:2647:U:H2'	24:YA:2648:C:C6	2.56	0.40
24:YA:2863:C:H2'	24:YA:2864:G:C8	2.56	0.40
27:YE:185:LYS:HA	27:YE:185:LYS:HD2	1.84	0.40
28:YF:152:GLU:N	28:YF:152:GLU:OE2	2.54	0.40
32:YN:114:ARG:O	32:YN:115:ARG:HB3	2.21	0.40
39:YU:61:TRP:HB3	39:YU:93:LYS:O	2.21	0.40
40:YV:5:VAL:HB	40:YV:35:LEU:HD11	2.03	0.40
41:YW:33:ARG:NH2	41:YW:52:GLU:OE1	2.50	0.40
1:QA:381:C:H2'	1:QA:382:A:O4'	2.20	0.40
1:QA:819:A:N7	1:QA:1529:G:N1	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:939:G:H2'	1:QA:940:C:C6	2.55	0.40
1:QA:1314:C:H2'	1:QA:1315:U:H6	1.86	0.40
2:QB:114:ARG:O	2:QB:118:LEU:HG	2.22	0.40
4:QD:156:GLU:OE1	4:QD:156:GLU:N	2.45	0.40
16:QP:19:ILE:O	16:QP:36:ILE:HG22	2.21	0.40
24:RA:270(U):C:H2'	24:RA:270(V):G:C8	2.56	0.40
24:RA:587:C:H4'	24:RA:588:U:O5'	2.20	0.40
24:RA:634:C:H2'	24:RA:635:C:H6	1.86	0.40
24:RA:1847:A:H5'	24:RA:1848:A:OP2	2.21	0.40
24:RA:1921:G:H2'	24:RA:1922:G:H8	1.86	0.40
26:RD:182:LEU:HB2	26:RD:271:ILE:HB	2.03	0.40
32:RN:112:LEU:HD12	32:RN:112:LEU:HA	1.93	0.40
34:RP:7:ARG:HA	34:RP:8:PRO:HD2	1.94	0.40
34:RP:62:LEU:HD12	53:R8:30:ARG:HE	1.86	0.40
41:RW:60:ASN:O	41:RW:61:ASN:ND2	2.53	0.40
53:R8:50:LEU:C	53:R8:52:LYS:H	2.25	0.40
1:XA:19:C:H2'	1:XA:20:U:H6	1.86	0.40
1:XA:777:A:H2'	1:XA:778:G:C8	2.56	0.40
1:XA:998(A):C:H2'	1:XA:999:U:C6	2.56	0.40
1:XA:1036:G:H5'	1:XA:1037:C:OP2	2.20	0.40
1:XA:1412:C:H2'	1:XA:1413:A:H8	1.86	0.40
9:XI:50:LEU:HD11	9:XI:81:ILE:HG21	2.02	0.40
16:XP:6:LEU:HD13	16:XP:6:LEU:HA	1.96	0.40
17:XQ:40:LYS:HB2	17:XQ:40:LYS:HE2	1.88	0.40
19:XS:85:LYS:HA	19:XS:85:LYS:HD2	1.90	0.40
24:YA:730:C:H2'	24:YA:731:C:H6	1.86	0.40
24:YA:1683:C:H2'	24:YA:1684:C:H6	1.86	0.40
28:YF:28:ILE:HD13	28:YF:116:ASP:HB2	2.03	0.40
29:YG:55:LYS:O	29:YG:58:GLN:HG3	2.21	0.40
32:YN:118:LYS:HA	32:YN:118:LYS:HD2	1.78	0.40
43:YY:13:VAL:HG12	43:YY:74:PRO:HA	2.02	0.40
1:QA:279:A:OP2	17:QQ:91:ARG:NH2	2.54	0.40
1:QA:324:G:P	20:QT:22:ARG:HE	2.45	0.40
1:QA:1268:A:H2'	1:QA:1269:A:C8	2.56	0.40
1:QA:1422:G:H2'	1:QA:1423:G:H8	1.87	0.40
16:QP:8:ARG:HA	16:QP:17:TYR:HD1	1.86	0.40
24:RA:150:C:H2'	24:RA:151:C:H6	1.87	0.40
24:RA:1295:C:H2'	24:RA:1296:G:C8	2.57	0.40
24:RA:2188:C:H2'	24:RA:2189:U:O4'	2.21	0.40
31:RI:76:THR:OG1	31:RI:139:GLN:NE2	2.49	0.40
1:XA:323:U:O2'	20:XT:22:ARG:HD3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1255:G:O2'	1:XA:1258:G:N3	2.37	0.40
1:XA:1303:C:H2'	1:XA:1304:G:O4'	2.21	0.40
1:XA:1320:C:O2	19:XS:36:ARG:NH2	2.54	0.40
1:XA:1342:C:H2'	1:XA:1343:G:H8	1.84	0.40
6:XF:50:TYR:OH	18:XR:75:ILE:O	2.40	0.40
13:XM:65:LYS:HB3	49:Y4:50:VAL:HG21	2.02	0.40
24:YA:27:G:N2	24:YA:513:A:OP2	2.54	0.40
24:YA:186:G:H2'	24:YA:187:G:C8	2.56	0.40
24:YA:864:G:H2'	24:YA:865:C:C6	2.57	0.40
24:YA:1203:G:H1'	24:YA:1242:A:N6	2.36	0.40
24:YA:1345:C:H2'	24:YA:1346:G:H8	1.87	0.40
24:YA:1604:C:O2'	24:YA:1610:A:N1	2.46	0.40
24:YA:1907:G:O6	24:YA:1924:C:N4	2.55	0.40
24:YA:1947:C:H2'	24:YA:1948:G:H8	1.85	0.40
24:YA:1952:A:N3	24:YA:2560:C:O2'	2.43	0.40
24:YA:1990:C:H2'	24:YA:1991:U:C6	2.56	0.40
24:YA:2243:U:H2'	24:YA:2244:U:C6	2.56	0.40
24:YA:2354:G:H4'	45:Y0:35:ASN:ND2	2.36	0.40
24:YA:2626:C:H2'	24:YA:2627:G:C8	2.51	0.40
24:YA:2637:U:H5''	27:YE:82:ARG:NH1	2.35	0.40
24:YA:2661:G:H2'	24:YA:2662:A:C8	2.56	0.40
24:YA:2698:U:H2'	24:YA:2699:C:H6	1.87	0.40
44:YZ:48:PHE:HA	44:YZ:51:ALA:HB3	2.02	0.40
48:Y3:28:LEU:HD22	48:Y3:35:ARG:HD3	2.02	0.40
54:Y9:6:SER:O	54:Y9:6:SER:OG	2.32	0.40
22:XV:4:U:O2'	22:XV:5:G:H8	2.04	0.40
1:QA:173:U:H5''	1:QA:197:A:O4'	2.21	0.40
1:QA:448:A:OP2	1:QA:485:G:N2	2.25	0.40
1:QA:538:G:H2'	1:QA:539:A:C8	2.56	0.40
1:QA:1298:C:H4'	1:QA:1299:A:C5	2.57	0.40
1:QA:1346:A:H1'	1:QA:1347:G:OP2	2.22	0.40
3:QC:8:ILE:HD12	3:QC:16:ARG:NH1	2.36	0.40
3:QC:30:ARG:O	3:QC:34:LEU:HD12	2.21	0.40
3:QC:152:ILE:HG12	3:QC:199:LYS:HB3	2.03	0.40
5:QE:121:LYS:HA	5:QE:121:LYS:HD2	1.83	0.40
12:QL:55:VAL:HG12	12:QL:69:TYR:HA	2.04	0.40
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	2.02	0.40
24:RA:137(A):G:O6	24:RA:139:G:O2'	2.34	0.40
24:RA:376:C:H2'	24:RA:377:C:C6	2.56	0.40
24:RA:691:C:H2'	24:RA:692:C:H6	1.86	0.40
24:RA:829:A:N7	24:RA:2248:C:H5'	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1823:G:H2'	24:RA:1824:G:H8	1.86	0.40
24:RA:2287:A:H62	24:RA:2344:U:H3	1.70	0.40
24:RA:2315:G:H2'	24:RA:2316:C:C6	2.55	0.40
24:RA:2377:A:H2'	24:RA:2378:A:C8	2.55	0.40
27:RE:114:ALA:HB3	27:RE:160:TYR:HB3	2.02	0.40
27:RE:116:VAL:HG11	27:RE:138:PRO:HD3	2.03	0.40
32:RN:114:ARG:H	32:RN:114:ARG:HG2	1.66	0.40
34:RP:79:ARG:HA	34:RP:79:ARG:HD3	1.95	0.40
37:RS:96:GLY:H	37:RS:99:LYS:HE3	1.87	0.40
53:R8:26:LYS:HA	53:R8:26:LYS:HD2	1.89	0.40
1:XA:79:G:H2'	1:XA:80:G:H8	1.85	0.40
1:XA:165:C:H2'	1:XA:166:G:C8	2.56	0.40
1:XA:636:U:H2'	1:XA:637:G:C8	2.56	0.40
1:XA:822:C:H2'	1:XA:823:G:C8	2.56	0.40
1:XA:1322:C:O2'	1:XA:1323:G:OP2	2.38	0.40
5:XE:43:LEU:HA	5:XE:43:LEU:HD12	1.81	0.40
14:YN:15:LYS:HD3	14:YN:15:LYS:HA	1.89	0.40
16:XP:71:ARG:HH12	16:XP:75:ARG:CZ	2.34	0.40
20:XT:51:GLU:O	20:XT:55:ILE:HG12	2.21	0.40
24:YA:184:C:H2'	24:YA:185:U:C6	2.56	0.40
24:YA:230:U:H2'	24:YA:231:C:H6	1.86	0.40
24:YA:1541:U:H2'	24:YA:1542:G:O4'	2.22	0.40
24:YA:1629:U:H2'	24:YA:1630:G:H8	1.86	0.40
24:YA:1658:C:H2'	24:YA:1659:U:C6	2.57	0.40
24:YA:2257:U:H2'	24:YA:2258:C:C6	2.56	0.40
28:YF:152:GLU:O	28:YF:154:VAL:HG23	2.21	0.40
30:YH:9:ILE:HA	30:YH:10:PRO:HD3	1.89	0.40
1:QA:224:C:H2'	1:QA:225:C:H6	1.86	0.40
1:QA:900:A:H2'	1:QA:901:A:C8	2.56	0.40
1:QA:947:G:O3'	13:QM:109:THR:OG1	2.38	0.40
1:QA:1137:C:O2'	1:QA:1138:G:H5''	2.21	0.40
1:QA:1308:U:H2'	1:QA:1309:G:C8	2.57	0.40
3:QC:90:GLU:O	3:QC:93:LYS:NZ	2.52	0.40
4:QD:201:GLN:HA	4:QD:204:ILE:HD12	2.03	0.40
5:QE:5:ASP:OD1	5:QE:5:ASP:N	2.55	0.40
13:QM:52:GLU:O	13:QM:56:LEU:HB2	2.22	0.40
24:RA:404:C:H1'	24:RA:405:U:OP2	2.21	0.40
24:RA:479:A:OP1	43:RY:34:LYS:NZ	2.42	0.40
24:RA:1119:C:H2'	24:RA:1120:G:H8	1.86	0.40
24:RA:1165:U:H2'	24:RA:1166:C:C6	2.56	0.40
24:RA:1670:C:H2'	24:RA:1671:U:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2019:A:N7	50:R5:9:LYS:NZ	2.61	0.40
24:RA:2074:U:H2'	24:RA:2075:U:C6	2.57	0.40
24:RA:2231:C:H2'	24:RA:2232:U:O4'	2.21	0.40
24:RA:2303:G:O2'	29:RG:132:ASN:HB2	2.20	0.40
25:RB:66:A:H61	25:RB:107:U:H2'	1.86	0.40
26:RD:36:PRO:HA	26:RD:62:TYR:O	2.22	0.40
27:RE:6:GLY:HA2	27:RE:51:PHE:CZ	2.57	0.40
38:RT:22:PHE:HA	38:RT:91:ARG:HH12	1.86	0.40
1:XA:338:A:H2'	1:XA:339:C:C6	2.57	0.40
1:XA:993:G:H2'	1:XA:995:C:H41	1.85	0.40
1:XA:1006:C:H2'	1:XA:1007:C:C6	2.57	0.40
1:XA:1304:G:N2	1:XA:1333:A:H62	2.19	0.40
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.20	0.40
7:XG:20:ASP:OD1	7:XG:21:VAL:N	2.54	0.40
13:XM:40:ASN:HA	13:XM:41:PRO:HD3	1.96	0.40
13:XM:76:ALA:O	13:XM:80:ARG:HG2	2.22	0.40
24:YA:610:C:H2'	24:YA:611:C:H6	1.85	0.40
24:YA:658:C:H2'	24:YA:659:C:C6	2.56	0.40
24:YA:664:C:H2'	24:YA:665:C:H6	1.87	0.40
24:YA:667:U:H2'	24:YA:668:G:O4'	2.21	0.40
24:YA:1165:U:H2'	24:YA:1166:C:H6	1.87	0.40
24:YA:1656:C:P	27:YE:136:ARG:HE	2.44	0.40
24:YA:2031:A:N3	24:YA:2455:G:O2'	2.51	0.40
24:YA:2055:C:H4'	24:YA:2056:G:H5''	2.04	0.40
24:YA:2230:G:O2'	46:Y1:43:TYR:O	2.27	0.40
29:YG:83:ARG:HG3	29:YG:84:LYS:H	1.85	0.40
29:YG:106:LEU:HA	29:YG:110:ALA:HB3	2.03	0.40
29:YG:124:SER:HB2	29:YG:131:TYR:CE1	2.57	0.40
34:YP:107:LYS:O	34:YP:109:GLY:N	2.55	0.40
35:YQ:5:ARG:HE	35:YQ:6:ARG:H	1.68	0.40
38:YT:107:ASP:O	38:YT:110:ILE:HG12	2.21	0.40
42:YX:21:PHE:HA	42:YX:26:TYR:HE1	1.86	0.40
51:Y6:9:LEU:HD13	51:Y6:51:GLU:HB2	2.04	0.40
53:Y8:3:LYS:H	53:Y8:3:LYS:HG3	1.68	0.40
22:XV:73:G:H2'	22:XV:74:A:C8	2.56	0.40

All (7) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:YV:53:GLU:CB	50:Y5:59:GLU:OE1[4_445]	1.95	0.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QK:99:GLN:OE1	3:XC:79:ARG:CD[4_555]	2.01	0.19
24:RA:2137:C:OP1	1:XA:999:U:O2'[4_555]	2.05	0.15
30:YH:46:GLU:OE2	43:YY:23:ARG:NH1[4_445]	2.08	0.12
24:RA:306:U:O3'	47:Y2:17:SER:OG[3_555]	2.12	0.08
24:RA:307:G:O3'	47:Y2:15:LYS:NZ[3_555]	2.13	0.07
24:RA:2217:G:OP1	4:XD:159:ARG:NH2[4_555]	2.14	0.06

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	QB	233/256 (91%)	204 (88%)	27 (12%)	2 (1%)	17	54
2	XB	234/256 (91%)	207 (88%)	27 (12%)	0	100	100
3	QC	203/239 (85%)	189 (93%)	13 (6%)	1 (0%)	29	66
3	XC	203/239 (85%)	184 (91%)	18 (9%)	1 (0%)	29	66
4	QD	206/209 (99%)	188 (91%)	18 (9%)	0	100	100
4	XD	206/209 (99%)	191 (93%)	15 (7%)	0	100	100
5	QE	149/162 (92%)	139 (93%)	9 (6%)	1 (1%)	22	60
5	XE	149/162 (92%)	138 (93%)	11 (7%)	0	100	100
6	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100	100
6	XF	99/101 (98%)	98 (99%)	1 (1%)	0	100	100
7	QG	153/156 (98%)	145 (95%)	8 (5%)	0	100	100
7	XG	153/156 (98%)	148 (97%)	5 (3%)	0	100	100
8	QH	135/138 (98%)	126 (93%)	9 (7%)	0	100	100
8	XH	135/138 (98%)	128 (95%)	7 (5%)	0	100	100
9	QI	123/128 (96%)	113 (92%)	9 (7%)	1 (1%)	19	57
9	XI	124/128 (97%)	116 (94%)	8 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	QJ	97/105 (92%)	93 (96%)	4 (4%)	0	100	100
10	XJ	94/105 (90%)	83 (88%)	11 (12%)	0	100	100
11	QK	117/129 (91%)	111 (95%)	6 (5%)	0	100	100
11	XK	114/129 (88%)	110 (96%)	4 (4%)	0	100	100
12	QL	123/132 (93%)	111 (90%)	11 (9%)	1 (1%)	19	57
12	XL	120/132 (91%)	104 (87%)	15 (12%)	1 (1%)	19	57
13	QM	118/126 (94%)	102 (86%)	15 (13%)	1 (1%)	19	57
13	XM	117/126 (93%)	99 (85%)	17 (14%)	1 (1%)	17	54
14	QN	58/61 (95%)	51 (88%)	6 (10%)	1 (2%)	9	42
14	XN	58/61 (95%)	52 (90%)	5 (9%)	1 (2%)	9	42
15	QO	86/89 (97%)	82 (95%)	4 (5%)	0	100	100
15	XO	85/89 (96%)	84 (99%)	1 (1%)	0	100	100
16	QP	82/88 (93%)	79 (96%)	3 (4%)	0	100	100
16	XP	82/88 (93%)	81 (99%)	1 (1%)	0	100	100
17	QQ	98/105 (93%)	93 (95%)	5 (5%)	0	100	100
17	XQ	98/105 (93%)	95 (97%)	3 (3%)	0	100	100
18	QR	68/88 (77%)	66 (97%)	2 (3%)	0	100	100
18	XR	68/88 (77%)	62 (91%)	6 (9%)	0	100	100
19	QS	81/93 (87%)	73 (90%)	8 (10%)	0	100	100
19	XS	82/93 (88%)	68 (83%)	14 (17%)	0	100	100
20	QT	97/106 (92%)	91 (94%)	6 (6%)	0	100	100
20	XT	97/106 (92%)	90 (93%)	6 (6%)	1 (1%)	15	52
21	QU	23/27 (85%)	20 (87%)	3 (13%)	0	100	100
21	XU	23/27 (85%)	23 (100%)	0	0	100	100
26	RD	270/276 (98%)	245 (91%)	23 (8%)	2 (1%)	22	60
26	YD	270/276 (98%)	248 (92%)	20 (7%)	2 (1%)	22	60
27	RE	203/206 (98%)	170 (84%)	31 (15%)	2 (1%)	15	52
27	YE	203/206 (98%)	166 (82%)	35 (17%)	2 (1%)	15	52
28	RF	200/210 (95%)	189 (94%)	11 (6%)	0	100	100
28	YF	200/210 (95%)	189 (94%)	11 (6%)	0	100	100
29	RG	179/182 (98%)	148 (83%)	29 (16%)	2 (1%)	14	50

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	YG	179/182 (98%)	150 (84%)	27 (15%)	2 (1%)	14	50
30	RH	172/180 (96%)	147 (86%)	20 (12%)	5 (3%)	4	32
30	YH	172/180 (96%)	150 (87%)	18 (10%)	4 (2%)	6	37
31	RI	144/148 (97%)	121 (84%)	20 (14%)	3 (2%)	7	38
31	YI	144/148 (97%)	120 (83%)	21 (15%)	3 (2%)	7	38
32	RN	136/140 (97%)	120 (88%)	15 (11%)	1 (1%)	22	60
32	YN	136/140 (97%)	119 (88%)	17 (12%)	0	100	100
33	RO	120/122 (98%)	112 (93%)	8 (7%)	0	100	100
33	YO	120/122 (98%)	112 (93%)	8 (7%)	0	100	100
34	RP	148/150 (99%)	120 (81%)	26 (18%)	2 (1%)	11	45
34	YP	145/150 (97%)	119 (82%)	25 (17%)	1 (1%)	22	60
35	RQ	139/141 (99%)	119 (86%)	19 (14%)	1 (1%)	22	60
35	YQ	139/141 (99%)	117 (84%)	21 (15%)	1 (1%)	22	60
36	RR	115/118 (98%)	108 (94%)	5 (4%)	2 (2%)	9	42
36	YR	115/118 (98%)	107 (93%)	7 (6%)	1 (1%)	17	54
37	RS	109/112 (97%)	93 (85%)	15 (14%)	1 (1%)	17	54
37	YS	109/112 (97%)	92 (84%)	17 (16%)	0	100	100
38	RT	135/146 (92%)	118 (87%)	15 (11%)	2 (2%)	10	45
38	YT	135/146 (92%)	114 (84%)	19 (14%)	2 (2%)	10	45
39	RU	115/118 (98%)	107 (93%)	7 (6%)	1 (1%)	17	54
39	YU	115/118 (98%)	106 (92%)	8 (7%)	1 (1%)	17	54
40	RV	99/101 (98%)	87 (88%)	11 (11%)	1 (1%)	15	52
40	YV	99/101 (98%)	86 (87%)	12 (12%)	1 (1%)	15	52
41	RW	111/113 (98%)	105 (95%)	5 (4%)	1 (1%)	17	54
41	YW	111/113 (98%)	101 (91%)	9 (8%)	1 (1%)	17	54
42	RX	90/96 (94%)	89 (99%)	1 (1%)	0	100	100
42	YX	90/96 (94%)	88 (98%)	2 (2%)	0	100	100
43	RY	105/110 (96%)	101 (96%)	4 (4%)	0	100	100
43	YY	105/110 (96%)	99 (94%)	6 (6%)	0	100	100
44	RZ	181/206 (88%)	146 (81%)	32 (18%)	3 (2%)	9	42
44	YZ	181/206 (88%)	149 (82%)	29 (16%)	3 (2%)	9	42

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	R0	79/85 (93%)	74 (94%)	5 (6%)	0	100	100
45	Y0	72/85 (85%)	69 (96%)	3 (4%)	0	100	100
46	R1	95/98 (97%)	86 (90%)	9 (10%)	0	100	100
46	Y1	91/98 (93%)	83 (91%)	8 (9%)	0	100	100
47	R2	67/72 (93%)	63 (94%)	3 (4%)	1 (2%)	10	45
47	Y2	67/72 (93%)	63 (94%)	3 (4%)	1 (2%)	10	45
48	R3	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
48	Y3	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
49	R4	67/71 (94%)	53 (79%)	13 (19%)	1 (2%)	10	45
49	Y4	67/71 (94%)	53 (79%)	13 (19%)	1 (2%)	10	45
50	R5	57/60 (95%)	53 (93%)	4 (7%)	0	100	100
50	Y5	57/60 (95%)	52 (91%)	5 (9%)	0	100	100
51	R6	51/54 (94%)	51 (100%)	0	0	100	100
51	Y6	51/54 (94%)	47 (92%)	4 (8%)	0	100	100
52	R7	45/49 (92%)	45 (100%)	0	0	100	100
52	Y7	46/49 (94%)	45 (98%)	1 (2%)	0	100	100
53	R8	62/65 (95%)	48 (77%)	11 (18%)	3 (5%)	2	23
53	Y8	62/65 (95%)	47 (76%)	13 (21%)	2 (3%)	4	31
54	R9	35/37 (95%)	35 (100%)	0	0	100	100
54	Y9	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
All	All	11449/12128 (94%)	10319 (90%)	1055 (9%)	75 (1%)	22	60

All (75) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
27	RE	18	ASP
31	RI	15	VAL
38	RT	124	ASP
44	RZ	53	ILE
53	R8	30	ARG
27	YE	18	ASP
30	YH	86	GLU
30	YH	152	ARG
31	YI	15	VAL
38	YT	123	GLN

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Mol	Chain	Res	Type
38	YT	124	ASP
44	YZ	53	ILE
53	Y8	30	ARG
3	QC	12	LEU
14	QN	17	LYS
26	RD	243	GLY
34	RP	108	LYS
36	RR	3	HIS
38	RT	123	GLN
53	R8	29	LYS
12	XL	105	TYR
14	XN	17	LYS
34	YP	108	LYS
53	Y8	29	LYS
12	QL	46	LYS
27	RE	83	ASP
30	RH	86	GLU
30	RH	87	LEU
30	RH	152	ARG
31	RI	10	GLU
32	RN	22	THR
36	RR	4	LEU
37	RS	111	GLU
40	RV	44	LYS
41	RW	66	GLU
49	R4	47	GLN
26	YD	243	GLY
27	YE	83	ASP
29	YG	81	LYS
39	YU	92	ARG
41	YW	66	GLU
49	Y4	47	GLN
9	QI	107	ARG
13	QM	14	ARG
29	RG	81	LYS
39	RU	92	ARG
44	RZ	52	SER
47	R2	70	GLN
29	YG	83	ARG
30	YH	87	LEU
35	YQ	78	PRO
47	Y2	70	GLN

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Mol	Chain	Res	Type
29	RG	82	LEU
30	RH	12	PRO
35	RQ	78	PRO
3	XC	12	LEU
13	XM	13	LYS
30	YH	12	PRO
31	YI	123	LEU
36	YR	4	LEU
40	YV	44	LYS
44	YZ	52	SER
30	RH	129	THR
26	YD	36	PRO
53	R8	53	PRO
26	RD	36	PRO
5	QE	74	GLY
34	RP	10	PRO
44	RZ	166	SER
2	QB	208	ILE
31	RI	16	GLY
31	YI	16	GLY
44	YZ	165	VAL
2	QB	232	PRO
20	XT	97	ALA

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	QB	203/220 (92%)	200 (98%)	3 (2%)	65 79
2	XB	204/220 (93%)	201 (98%)	3 (2%)	65 79
3	QC	159/188 (85%)	154 (97%)	5 (3%)	40 63
3	XC	159/188 (85%)	157 (99%)	2 (1%)	69 81
4	QD	180/181 (99%)	176 (98%)	4 (2%)	52 71
4	XD	180/181 (99%)	175 (97%)	5 (3%)	43 65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	QE	116/123 (94%)	115 (99%)	1 (1%)	78	87
5	XE	116/123 (94%)	115 (99%)	1 (1%)	78	87
6	QF	90/90 (100%)	90 (100%)	0	100	100
6	XF	90/90 (100%)	90 (100%)	0	100	100
7	QG	126/127 (99%)	122 (97%)	4 (3%)	39	62
7	XG	126/127 (99%)	124 (98%)	2 (2%)	62	79
8	QH	118/119 (99%)	116 (98%)	2 (2%)	60	78
8	XH	118/119 (99%)	116 (98%)	2 (2%)	60	78
9	QI	96/99 (97%)	94 (98%)	2 (2%)	53	72
9	XI	97/99 (98%)	95 (98%)	2 (2%)	53	72
10	QJ	89/92 (97%)	88 (99%)	1 (1%)	73	84
10	XJ	86/92 (94%)	83 (96%)	3 (4%)	36	61
11	QK	90/99 (91%)	89 (99%)	1 (1%)	73	84
11	XK	88/99 (89%)	88 (100%)	0	100	100
12	QL	104/109 (95%)	103 (99%)	1 (1%)	76	85
12	XL	103/109 (94%)	102 (99%)	1 (1%)	76	85
13	QM	96/101 (95%)	93 (97%)	3 (3%)	40	63
13	XM	95/101 (94%)	92 (97%)	3 (3%)	39	62
14	QN	49/50 (98%)	47 (96%)	2 (4%)	30	57
14	XN	49/50 (98%)	49 (100%)	0	100	100
15	QO	79/80 (99%)	79 (100%)	0	100	100
15	XO	79/80 (99%)	79 (100%)	0	100	100
16	QP	72/74 (97%)	72 (100%)	0	100	100
16	XP	72/74 (97%)	72 (100%)	0	100	100
17	QQ	95/97 (98%)	94 (99%)	1 (1%)	73	84
17	XQ	95/97 (98%)	94 (99%)	1 (1%)	73	84
18	QR	61/77 (79%)	61 (100%)	0	100	100
18	XR	61/77 (79%)	61 (100%)	0	100	100
19	QS	72/80 (90%)	71 (99%)	1 (1%)	67	80
19	XS	73/80 (91%)	73 (100%)	0	100	100
20	QT	76/82 (93%)	75 (99%)	1 (1%)	69	81

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	XT	76/82 (93%)	76 (100%)	0	100	100
21	QU	20/22 (91%)	19 (95%)	1 (5%)	24	52
21	XU	20/22 (91%)	19 (95%)	1 (5%)	24	52
26	RD	214/218 (98%)	212 (99%)	2 (1%)	78	87
26	YD	214/218 (98%)	212 (99%)	2 (1%)	78	87
27	RE	165/166 (99%)	164 (99%)	1 (1%)	86	91
27	YE	165/166 (99%)	165 (100%)	0	100	100
28	RF	161/166 (97%)	161 (100%)	0	100	100
28	YF	161/166 (97%)	161 (100%)	0	100	100
29	RG	155/156 (99%)	154 (99%)	1 (1%)	86	91
29	YG	155/156 (99%)	154 (99%)	1 (1%)	86	91
30	RH	145/148 (98%)	144 (99%)	1 (1%)	84	90
30	YH	145/148 (98%)	143 (99%)	2 (1%)	67	80
31	RI	122/124 (98%)	122 (100%)	0	100	100
31	YI	122/124 (98%)	121 (99%)	1 (1%)	81	88
32	RN	117/119 (98%)	117 (100%)	0	100	100
32	YN	117/119 (98%)	116 (99%)	1 (1%)	78	87
33	RO	100/100 (100%)	100 (100%)	0	100	100
33	YO	100/100 (100%)	100 (100%)	0	100	100
34	RP	116/116 (100%)	114 (98%)	2 (2%)	60	78
34	YP	114/116 (98%)	114 (100%)	0	100	100
35	RQ	111/111 (100%)	109 (98%)	2 (2%)	59	77
35	YQ	111/111 (100%)	109 (98%)	2 (2%)	59	77
36	RR	100/101 (99%)	100 (100%)	0	100	100
36	YR	100/101 (99%)	100 (100%)	0	100	100
37	RS	87/88 (99%)	86 (99%)	1 (1%)	73	84
37	YS	87/88 (99%)	87 (100%)	0	100	100
38	RT	120/127 (94%)	119 (99%)	1 (1%)	81	88
38	YT	120/127 (94%)	120 (100%)	0	100	100
39	RU	93/94 (99%)	92 (99%)	1 (1%)	73	84
39	YU	93/94 (99%)	93 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	RV	82/82 (100%)	81 (99%)	1 (1%)	71	83
40	YV	82/82 (100%)	80 (98%)	2 (2%)	49	69
41	RW	92/92 (100%)	92 (100%)	0	100	100
41	YW	92/92 (100%)	90 (98%)	2 (2%)	52	71
42	RX	74/78 (95%)	74 (100%)	0	100	100
42	YX	74/78 (95%)	74 (100%)	0	100	100
43	RY	88/91 (97%)	87 (99%)	1 (1%)	73	84
43	YY	88/91 (97%)	86 (98%)	2 (2%)	50	70
44	RZ	162/179 (90%)	162 (100%)	0	100	100
44	YZ	162/179 (90%)	160 (99%)	2 (1%)	71	83
45	R0	65/67 (97%)	64 (98%)	1 (2%)	65	79
45	Y0	60/67 (90%)	59 (98%)	1 (2%)	60	78
46	R1	82/83 (99%)	81 (99%)	1 (1%)	71	83
46	Y1	78/83 (94%)	78 (100%)	0	100	100
47	R2	64/67 (96%)	64 (100%)	0	100	100
47	Y2	64/67 (96%)	64 (100%)	0	100	100
48	R3	51/52 (98%)	50 (98%)	1 (2%)	55	73
48	Y3	51/52 (98%)	45 (88%)	6 (12%)	5	24
49	R4	62/63 (98%)	61 (98%)	1 (2%)	62	79
49	Y4	62/63 (98%)	60 (97%)	2 (3%)	39	62
50	R5	51/52 (98%)	51 (100%)	0	100	100
50	Y5	51/52 (98%)	50 (98%)	1 (2%)	55	73
51	R6	51/52 (98%)	51 (100%)	0	100	100
51	Y6	51/52 (98%)	50 (98%)	1 (2%)	55	73
52	R7	40/42 (95%)	40 (100%)	0	100	100
52	Y7	41/42 (98%)	41 (100%)	0	100	100
53	R8	54/55 (98%)	53 (98%)	1 (2%)	57	75
53	Y8	54/55 (98%)	54 (100%)	0	100	100
54	R9	34/34 (100%)	34 (100%)	0	100	100
54	Y9	34/34 (100%)	34 (100%)	0	100	100
All	All	9684/10066 (96%)	9578 (99%)	106 (1%)	73	84

All (106) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	69	LEU
2	QB	133	LYS
2	QB	139	LYS
3	QC	21	ARG
3	QC	34	LEU
3	QC	110	ASN
3	QC	135	LYS
3	QC	190	ARG
4	QD	40	PRO
4	QD	46	LYS
4	QD	61	LYS
4	QD	131	ARG
5	QE	127	ASN
7	QG	29	LYS
7	QG	36	LYS
7	QG	94	ARG
7	QG	115	ARG
8	QH	122	ARG
8	QH	129	VAL
9	QI	28	VAL
9	QI	93	ARG
10	QJ	46	ARG
11	QK	123	LYS
12	QL	59	ARG
13	QM	20	THR
13	QM	66	LEU
13	QM	77	ASN
14	QN	9	LYS
14	QN	19	ARG
17	QQ	87	LYS
19	QS	67	VAL
20	QT	14	LYS
21	QU	10	ARG
26	RD	5	LYS
26	RD	36	PRO
27	RE	133	LYS
29	RG	33	ARG
30	RH	162	ILE
34	RP	45	LEU
34	RP	132	LYS
35	RQ	79	LEU
35	RQ	81	VAL

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Mol	Chain	Res	Type
37	RS	106	ARG
38	RT	112	ARG
39	RU	90	VAL
40	RV	50	PRO
43	RY	90	LEU
45	R0	14	ARG
46	R1	81	LYS
48	R3	30	ARG
49	R4	50	VAL
53	R8	60	LEU
2	XB	64	ARG
2	XB	96	ARG
2	XB	145	LEU
3	XC	52	LEU
3	XC	130	VAL
4	XD	19	LEU
4	XD	132	ARG
4	XD	139	ARG
4	XD	141	ARG
4	XD	182	LYS
5	XE	24	ARG
7	XG	5	ARG
7	XG	94	ARG
8	XH	129	VAL
8	XH	135	CYS
9	XI	2	GLU
9	XI	110	GLU
10	XJ	5	ARG
10	XJ	46	ARG
10	XJ	60	ARG
12	XL	48	PRO
13	XM	31	LYS
13	XM	99	ARG
13	XM	102	ARG
17	XQ	100	LYS
21	XU	24	ARG
26	YD	36	PRO
26	YD	126	GLN
29	YG	33	ARG
30	YH	24	VAL
30	YH	69	ARG
31	YI	103	ARG

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Mol	Chain	Res	Type
32	YN	34	LEU
35	YQ	59	ARG
35	YQ	81	VAL
40	YV	20	LEU
40	YV	50	PRO
41	YW	17	VAL
41	YW	23	LEU
43	YY	21	LYS
43	YY	45	VAL
44	YZ	34	ASN
44	YZ	165	VAL
45	Y0	14	ARG
48	Y3	3	ARG
48	Y3	4	LEU
48	Y3	30	ARG
48	Y3	37	LEU
48	Y3	38	GLU
48	Y3	44	ARG
49	Y4	55	ARG
49	Y4	62	ARG
50	Y5	36	CYS
51	Y6	15	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (18) such sidechains are listed below:

Mol	Chain	Res	Type
3	QC	98	ASN
3	QC	123	GLN
3	QC	170	GLN
9	QI	124	GLN
10	QJ	68	HIS
11	QK	99	GLN
47	R2	9	GLN
2	XB	16	HIS
2	XB	95	GLN
6	XF	7	ASN
6	XF	32	ASN
13	XM	101	GLN
26	YD	115	GLN
26	YD	126	GLN
27	YE	66	HIS
28	YF	40	GLN

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Mol	Chain	Res	Type
29	YG	40	ASN
39	YU	94	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1499/1521 (98%)	271 (18%)	37 (2%)
1	XA	1498/1521 (98%)	254 (16%)	30 (2%)
22	QV	76/77 (98%)	15 (19%)	1 (1%)
22	XV	76/77 (98%)	17 (22%)	1 (1%)
23	QX	18/19 (94%)	5 (27%)	2 (11%)
23	XX	18/19 (94%)	5 (27%)	1 (5%)
24	RA	2879/2915 (98%)	571 (19%)	41 (1%)
24	YA	2880/2915 (98%)	576 (20%)	42 (1%)
25	RB	119/122 (97%)	18 (15%)	1 (0%)
25	YB	119/122 (97%)	21 (17%)	1 (0%)
All	All	9182/9308 (98%)	1753 (19%)	157 (1%)

All (1753) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	6	G
1	QA	9	G
1	QA	32	A
1	QA	39	G
1	QA	47	C
1	QA	48	C
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	76	G
1	QA	90	C
1	QA	91	C
1	QA	95	G
1	QA	101	A
1	QA	108	G
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	129(A)	G

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Mol	Chain	Res	Type
1	QA	144	G
1	QA	146	G
1	QA	157	G
1	QA	158	G
1	QA	159	G
1	QA	162	A
1	QA	169	C
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	190	G
1	QA	191(A)	G
1	QA	195	A
1	QA	197	A
1	QA	208	U
1	QA	209	U
1	QA	216	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	250	A
1	QA	251	G
1	QA	254	G
1	QA	262	A
1	QA	267	C
1	QA	270	A
1	QA	281	G
1	QA	289	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	339	C
1	QA	343	U
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	348	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A

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Mol	Chain	Res	Type
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	428	G
1	QA	429	U
1	QA	430	A
1	QA	442	C
1	QA	466	C
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
1	QA	505	G
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	521	G
1	QA	527	G
1	QA	532	A
1	QA	533	A
1	QA	545	C
1	QA	547	A
1	QA	559	A
1	QA	560	U
1	QA	565	U
1	QA	568	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G

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Mol	Chain	Res	Type
1	QA	596	C
1	QA	618	C
1	QA	630	G
1	QA	631	G
1	QA	653	A
1	QA	665	A
1	QA	666	G
1	QA	686	U
1	QA	688	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	722	A
1	QA	731	G
1	QA	748	C
1	QA	754	C
1	QA	755	G
1	QA	760	G
1	QA	777	A
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	813	U
1	QA	817	C
1	QA	819	A
1	QA	821	G
1	QA	828	A
1	QA	841	U
1	QA	842	C
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	871	U
1	QA	872	A
1	QA	873	A
1	QA	889	A
1	QA	891	U
1	QA	902	G
1	QA	914	A
1	QA	926	G
1	QA	927	G

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Mol	Chain	Res	Type
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	961	U
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	972	C
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	982	U
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1020	U
1	QA	1024	G
1	QA	1025	U
1	QA	1028	C
1	QA	1029	G
1	QA	1030	C
1	QA	1031	G
1	QA	1032(A)	G
1	QA	1033	G
1	QA	1034	G
1	QA	1042	G
1	QA	1054	C
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1080	A
1	QA	1081	G
1	QA	1082	G
1	QA	1094	G
1	QA	1095	U
1	QA	1101	A

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Mol	Chain	Res	Type
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1146	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1181	G
1	QA	1183	A
1	QA	1187	G
1	QA	1193	G
1	QA	1196	U
1	QA	1201	A
1	QA	1202	G
1	QA	1212	U
1	QA	1213	A
1	QA	1215	G
1	QA	1224	G
1	QA	1226	C
1	QA	1227	A
1	QA	1228	C
1	QA	1236	A
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1270	C
1	QA	1280	A
1	QA	1281	U
1	QA	1286	A
1	QA	1287	A
1	QA	1297	C

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Mol	Chain	Res	Type
1	QA	1298	C
1	QA	1299	A
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C
1	QA	1305	G
1	QA	1320	C
1	QA	1321	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1334	G
1	QA	1335	C
1	QA	1336	C
1	QA	1337	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1362(A)	C
1	QA	1364	U
1	QA	1397	C
1	QA	1398	A
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1492	A
1	QA	1494	G
1	QA	1499	A
1	QA	1502	A
1	QA	1504	G
1	QA	1506	U
1	QA	1517	G
1	QA	1520	G
1	QA	1527	C
1	QA	1528	U
1	QA	1529	G
1	QA	1530	G
22	QV	4	U

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Mol	Chain	Res	Type
22	QV	5	G
22	QV	8	U
22	QV	18	U
22	QV	19	G
22	QV	20	G
22	QV	22	A
22	QV	48	U
22	QV	49	C
22	QV	55	U
22	QV	64	U
22	QV	65	C
22	QV	68	U
22	QV	76	C
22	QV	77	A
23	QX	10	G
23	QX	14	U
23	QX	16	A
23	QX	21	G
23	QX	22	G
24	RA	10	G
24	RA	14	A
24	RA	15	G
24	RA	34	C
24	RA	46	C
24	RA	51	G
24	RA	55	G
24	RA	61	G
24	RA	72	U
24	RA	73	A
24	RA	74	A
24	RA	75	G
24	RA	82	G
24	RA	83	G
24	RA	101	G
24	RA	102	G
24	RA	103	A
24	RA	118	A
24	RA	120	U
24	RA	131	G
24	RA	140	A
24	RA	161	U
24	RA	177	G

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Mol	Chain	Res	Type
24	RA	181	A
24	RA	188	G
24	RA	196	A
24	RA	199	A
24	RA	201	C
24	RA	214	G
24	RA	215	G
24	RA	216	A
24	RA	221	A
24	RA	222	A
24	RA	223	A
24	RA	229	A
24	RA	230	U
24	RA	233	A
24	RA	248	G
24	RA	249	C
24	RA	252	G
24	RA	265	A
24	RA	266	G
24	RA	270(L)	U
24	RA	270(M)	U
24	RA	270(N)	G
24	RA	270(P)	C
24	RA	270(Y)	G
24	RA	271(C)	U
24	RA	273(F)	C
24	RA	275	G
24	RA	276	A
24	RA	277	C
24	RA	283	A
24	RA	294	A
24	RA	298	G
24	RA	299	A
24	RA	308	G
24	RA	309	G
24	RA	311	A
24	RA	312	G
24	RA	323	G
24	RA	324	A
24	RA	329	G
24	RA	330	A
24	RA	342	G

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Mol	Chain	Res	Type
24	RA	346	A
24	RA	352	G
24	RA	363(F)	A
24	RA	364	C
24	RA	371	A
24	RA	372	G
24	RA	373	U
24	RA	386	G
24	RA	395	U
24	RA	405	U
24	RA	406	G
24	RA	407	G
24	RA	411	G
24	RA	412	A
24	RA	428	A
24	RA	444	C
24	RA	448	U
24	RA	451	C
24	RA	452	G
24	RA	455	C
24	RA	456	C
24	RA	457	A
24	RA	470	A
24	RA	481	G
24	RA	504	U
24	RA	505	A
24	RA	509	C
24	RA	513	A
24	RA	527	C
24	RA	531	C
24	RA	532	A
24	RA	533	G
24	RA	537	C
24	RA	539	G
24	RA	540	G
24	RA	541	C
24	RA	546	C
24	RA	547	A
24	RA	563	G
24	RA	573	G
24	RA	574	C
24	RA	575	A

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Mol	Chain	Res	Type
24	RA	583	G
24	RA	588	U
24	RA	603	A
24	RA	607	U
24	RA	614	U
24	RA	615	G
24	RA	617	G
24	RA	621	A
24	RA	627	A
24	RA	631	A
24	RA	637	A
24	RA	638	G
24	RA	645	C
24	RA	646	A
24	RA	647	G
24	RA	651	G
24	RA	652	C
24	RA	654	A
24	RA	654(A)	G
24	RA	669	G
24	RA	686	G
24	RA	708	C
24	RA	717	G
24	RA	722	A
24	RA	726	G
24	RA	730	C
24	RA	731	C
24	RA	753	C
24	RA	761	A
24	RA	775	G
24	RA	776	G
24	RA	782	A
24	RA	783	A
24	RA	784	A
24	RA	785	G
24	RA	788	A
24	RA	790	C
24	RA	791	C
24	RA	792	G
24	RA	805	G
24	RA	811	U
24	RA	812	C

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Mol	Chain	Res	Type
24	RA	819	A
24	RA	827	U
24	RA	828	U
24	RA	831	G
24	RA	847	U
24	RA	856	C
24	RA	857	C
24	RA	859	G
24	RA	869	G
24	RA	882	G
24	RA	884	C
24	RA	885	C
24	RA	886	C
24	RA	888	C
24	RA	889	C
24	RA	893	C
24	RA	896	A
24	RA	897	C
24	RA	900	A
24	RA	901	A
24	RA	907	U
24	RA	910	A
24	RA	914	C
24	RA	915	C
24	RA	917	A
24	RA	932	G
24	RA	941	A
24	RA	945	A
24	RA	946	G
24	RA	957	A
24	RA	959	A
24	RA	961	C
24	RA	973	A
24	RA	974	G
24	RA	974(A)	C
24	RA	980	A
24	RA	983	A
24	RA	996	A
24	RA	1003	G
24	RA	1009	A
24	RA	1012	U
24	RA	1013	C

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Mol	Chain	Res	Type
24	RA	1022	G
24	RA	1023	U
24	RA	1025	G
24	RA	1026	U
24	RA	1027	A
24	RA	1033	U
24	RA	1042	G
24	RA	1044	G
24	RA	1045	A
24	RA	1046	A
24	RA	1050	A
24	RA	1053	C
24	RA	1054	A
24	RA	1055	G
24	RA	1057	A
24	RA	1060	U
24	RA	1061	U
24	RA	1065	U
24	RA	1066	U
24	RA	1071	G
24	RA	1073	A
24	RA	1074	G
24	RA	1077	A
24	RA	1078	U
24	RA	1082	U
24	RA	1083	U
24	RA	1084	A
24	RA	1085	A
24	RA	1086	A
24	RA	1087	G
24	RA	1088	A
24	RA	1091	G
24	RA	1093	G
24	RA	1096	A
24	RA	1110	G
24	RA	1111	A
24	RA	1112	G
24	RA	1122	G
24	RA	1130	U
24	RA	1131	G
24	RA	1135	C
24	RA	1136	G

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Mol	Chain	Res	Type
24	RA	1140	C
24	RA	1142(A)	A
24	RA	1152	C
24	RA	1173	G
24	RA	1174	A
24	RA	1175	U
24	RA	1176	G
24	RA	1178	C
24	RA	1181	C
24	RA	1195	G
24	RA	1204	A
24	RA	1205	U
24	RA	1206	G
24	RA	1210	A
24	RA	1211	U
24	RA	1220	A
24	RA	1236	G
24	RA	1238	G
24	RA	1253	A
24	RA	1256	G
24	RA	1265	A
24	RA	1272	A
24	RA	1273	U
24	RA	1286	A
24	RA	1300	U
24	RA	1301	A
24	RA	1312	U
24	RA	1313	U
24	RA	1314	C
24	RA	1321	A
24	RA	1329	U
24	RA	1341	U
24	RA	1349	A
24	RA	1365	A
24	RA	1370	C
24	RA	1378	A
24	RA	1379	A
24	RA	1380	G
24	RA	1384	A
24	RA	1385	G
24	RA	1390	U
24	RA	1395	A

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Mol	Chain	Res	Type
24	RA	1407	C
24	RA	1408	C
24	RA	1411	C
24	RA	1416	G
24	RA	1419	A
24	RA	1420	U
24	RA	1421	G
24	RA	1428	C
24	RA	1444(A)	A
24	RA	1445	C
24	RA	1449	A
24	RA	1449(A)	G
24	RA	1460	A
24	RA	1461	G
24	RA	1471	A
24	RA	1472	A
24	RA	1473	G
24	RA	1474	C
24	RA	1475	G
24	RA	1480	G
24	RA	1482	U
24	RA	1483	G
24	RA	1487	G
24	RA	1490	A
24	RA	1493	C
24	RA	1494	A
24	RA	1497	U
24	RA	1502	C
24	RA	1504	C
24	RA	1505	C
24	RA	1506	C
24	RA	1507	A
24	RA	1508	A
24	RA	1510	A
24	RA	1513	C
24	RA	1514	U
24	RA	1519	G
24	RA	1520	U
24	RA	1522	G
24	RA	1528	A
24	RA	1535	U
24	RA	1536	A

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Mol	Chain	Res	Type
24	RA	1537	C
24	RA	1538	G
24	RA	1543	A
24	RA	1545	A
24	RA	1547	C
24	RA	1558	A
24	RA	1559	G
24	RA	1566	A
24	RA	1569	A
24	RA	1578	U
24	RA	1580	A
24	RA	1581	G
24	RA	1583	A
24	RA	1586	A
24	RA	1598	C
24	RA	1608	A
24	RA	1609	A
24	RA	1616	A
24	RA	1617	C
24	RA	1640	C
24	RA	1646	C
24	RA	1648	C
24	RA	1654	A
24	RA	1665	A
24	RA	1667	G
24	RA	1668	A
24	RA	1674	G
24	RA	1675	C
24	RA	1678	G
24	RA	1725	G
24	RA	1728	G
24	RA	1729	A
24	RA	1733	G
24	RA	1743	G
24	RA	1750	G
24	RA	1756	G
24	RA	1762	A
24	RA	1763	G
24	RA	1764	G
24	RA	1773	A
24	RA	1774	C
24	RA	1780	A

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Mol	Chain	Res	Type
24	RA	1781	C
24	RA	1784	A
24	RA	1791	A
24	RA	1799	G
24	RA	1800	C
24	RA	1802	A
24	RA	1816	G
24	RA	1820	U
24	RA	1835	G
24	RA	1847	A
24	RA	1848	A
24	RA	1858	G
24	RA	1869	G
24	RA	1870	C
24	RA	1871	A
24	RA	1872	A
24	RA	1878	G
24	RA	1882	C
24	RA	1884	A
24	RA	1888	G
24	RA	1889	A
24	RA	1906	G
24	RA	1913	A
24	RA	1914	C
24	RA	1929	G
24	RA	1930	G
24	RA	1938	A
24	RA	1939	U
24	RA	1955	U
24	RA	1963	U
24	RA	1967	C
24	RA	1968	G
24	RA	1969	A
24	RA	1970	A
24	RA	1971	A
24	RA	1972	A
24	RA	1981	A
24	RA	1982	C
24	RA	1992	G
24	RA	1993	U
24	RA	1996	C
24	RA	2004	G

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Mol	Chain	Res	Type
24	RA	2023	G
24	RA	2031	A
24	RA	2032	G
24	RA	2033	A
24	RA	2043	C
24	RA	2052	G
24	RA	2055	C
24	RA	2056	G
24	RA	2059	A
24	RA	2060	A
24	RA	2061	G
24	RA	2062	A
24	RA	2063	C
24	RA	2069	G
24	RA	2093	G
24	RA	2099	U
24	RA	2101	G
24	RA	2107	C
24	RA	2111	C
24	RA	2113	U
24	RA	2114	A
24	RA	2115	G
24	RA	2116	G
24	RA	2117	A
24	RA	2118	U
24	RA	2126	A
24	RA	2127	G
24	RA	2128	C
24	RA	2131	G
24	RA	2132	U
24	RA	2133	G
24	RA	2135	A
24	RA	2136	C
24	RA	2147	G
24	RA	2148	G
24	RA	2161	C
24	RA	2166	G
24	RA	2168	G
24	RA	2170	A
24	RA	2173	A
24	RA	2189	U
24	RA	2190	G

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Mol	Chain	Res	Type
24	RA	2192	G
24	RA	2198	A
24	RA	2199	A
24	RA	2210	G
24	RA	2211	G
24	RA	2212	A
24	RA	2215	G
24	RA	2225	A
24	RA	2238	G
24	RA	2239	G
24	RA	2243	U
24	RA	2275	C
24	RA	2278	A
24	RA	2280	G
24	RA	2283	C
24	RA	2287	A
24	RA	2288	A
24	RA	2307	G
24	RA	2308	G
24	RA	2309	A
24	RA	2311	A
24	RA	2319	G
24	RA	2320	A
24	RA	2325	G
24	RA	2334	G
24	RA	2336	A
24	RA	2342	C
24	RA	2345	G
24	RA	2346	A
24	RA	2347	C
24	RA	2350	C
24	RA	2354	G
24	RA	2383	G
24	RA	2385	C
24	RA	2392	A
24	RA	2396	G
24	RA	2402	C
24	RA	2403	C
24	RA	2406	U
24	RA	2425	A
24	RA	2427	C
24	RA	2428	G

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Mol	Chain	Res	Type
24	RA	2429	G
24	RA	2430	A
24	RA	2435	A
24	RA	2439	A
24	RA	2440	C
24	RA	2441	C
24	RA	2447	G
24	RA	2448	A
24	RA	2469	A
24	RA	2470	G
24	RA	2474	C
24	RA	2475	C
24	RA	2478	A
24	RA	2480	C
24	RA	2482	G
24	RA	2494	G
24	RA	2498	C
24	RA	2502	G
24	RA	2505	G
24	RA	2518	A
24	RA	2519	U
24	RA	2529	G
24	RA	2542	A
24	RA	2543	G
24	RA	2554	U
24	RA	2566	A
24	RA	2567	G
24	RA	2569	G
24	RA	2572	A
24	RA	2578	G
24	RA	2582	G
24	RA	2585	U
24	RA	2602	A
24	RA	2609	U
24	RA	2611	U
24	RA	2612	C
24	RA	2623	G
24	RA	2629	A
24	RA	2636	U
24	RA	2641	G
24	RA	2646	C
24	RA	2655	G

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Mol	Chain	Res	Type
24	RA	2665	A
24	RA	2673	G
24	RA	2682	U
24	RA	2689	U
24	RA	2690	C
24	RA	2702	U
24	RA	2703	C
24	RA	2712(A)	A
24	RA	2713	A
24	RA	2714	G
24	RA	2726	U
24	RA	2733	A
24	RA	2739	U
24	RA	2744	G
24	RA	2748	A
24	RA	2751	G
24	RA	2752	C
24	RA	2757	A
24	RA	2761	G
24	RA	2764	A
24	RA	2765	A
24	RA	2766	G
24	RA	2778	A
24	RA	2779	U
24	RA	2789	C
24	RA	2790	A
24	RA	2791	C
24	RA	2797	U
24	RA	2798	C
24	RA	2807	G
24	RA	2818	G
24	RA	2820	A
24	RA	2821	A
24	RA	2833	G
24	RA	2834	G
24	RA	2849	U
24	RA	2867	G
24	RA	2872	G
24	RA	2880	C
24	RA	2891	G
24	RA	2892	A
24	RA	2894	G

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Mol	Chain	Res	Type
24	RA	2895	U
24	RA	2897	U
25	RB	8	U
25	RB	9	G
25	RB	13	A
25	RB	15	A
25	RB	19	G
25	RB	21	G
25	RB	24	G
25	RB	25	A
25	RB	41	U
25	RB	42	C
25	RB	44	G
25	RB	45	A
25	RB	52	A
25	RB	56	G
25	RB	67	G
25	RB	73	A
25	RB	108	C
25	RB	109	G
1	XA	6	G
1	XA	32	A
1	XA	35	G
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	61	G
1	XA	65	U
1	XA	66	G
1	XA	78	G
1	XA	79	G
1	XA	89	U
1	XA	92	G
1	XA	95	G
1	XA	101	A
1	XA	115	G
1	XA	116	A
1	XA	121	C
1	XA	130	A
1	XA	144	G

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Mol	Chain	Res	Type
1	XA	147	G
1	XA	160	A
1	XA	161	A
1	XA	163	C
1	XA	169	C
1	XA	172	A
1	XA	173	U
1	XA	174	C
1	XA	190	G
1	XA	195	A
1	XA	197	A
1	XA	201	C
1	XA	209	U
1	XA	210	U
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	267	C
1	XA	270	A
1	XA	281	G
1	XA	289	G
1	XA	306	G
1	XA	314	C
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	346	G
1	XA	347	G
1	XA	351	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	389	A
1	XA	397	A
1	XA	398	C
1	XA	406	G

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Mol	Chain	Res	Type
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	422	C
1	XA	423	G
1	XA	428	G
1	XA	429	U
1	XA	435	C
1	XA	452	A
1	XA	465	A
1	XA	466	C
1	XA	467	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	518	C
1	XA	521	G
1	XA	527	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	561	U
1	XA	562	C
1	XA	564	C
1	XA	568	G
1	XA	572	A
1	XA	573	A
1	XA	574	A
1	XA	576	G
1	XA	577	G
1	XA	618	C
1	XA	630	G
1	XA	631	G
1	XA	632	A

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Mol	Chain	Res	Type
1	XA	653	A
1	XA	665	A
1	XA	688	G
1	XA	702	A
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	723	U
1	XA	731	G
1	XA	749	C
1	XA	754	C
1	XA	755	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	821	G
1	XA	828	A
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	871	U
1	XA	872	A
1	XA	902	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	958	A
1	XA	960	U
1	XA	968	A
1	XA	969	A
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G

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Mol	Chain	Res	Type
1	XA	977	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	1004	A
1	XA	1006	C
1	XA	1009	G
1	XA	1024	G
1	XA	1025	U
1	XA	1028	C
1	XA	1029	G
1	XA	1031	G
1	XA	1032	A
1	XA	1032(A)	G
1	XA	1039	C
1	XA	1040	U
1	XA	1042	G
1	XA	1053	G
1	XA	1054	C
1	XA	1066	C
1	XA	1081	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1104	G
1	XA	1108	G
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1129	C
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1146	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G

Continued on next page...

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Mol	Chain	Res	Type
1	XA	1162	C
1	XA	1176	A
1	XA	1177	G
1	XA	1181	G
1	XA	1183	A
1	XA	1184	G
1	XA	1187	G
1	XA	1196	U
1	XA	1199	U
1	XA	1200	C
1	XA	1212	U
1	XA	1224	G
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1260	C
1	XA	1263	C
1	XA	1270	C
1	XA	1273	G
1	XA	1280	A
1	XA	1281	U
1	XA	1286	A
1	XA	1287	A
1	XA	1298	C
1	XA	1300	G
1	XA	1302	U
1	XA	1303	C
1	XA	1305	G
1	XA	1310	G
1	XA	1311	G
1	XA	1319	A
1	XA	1320	C
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1336	C
1	XA	1337	G
1	XA	1346	A

Continued on next page...

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Mol	Chain	Res	Type
1	XA	1347	G
1	XA	1362(A)	C
1	XA	1364	U
1	XA	1381	U
1	XA	1419	G
1	XA	1442	G
1	XA	1446	A
1	XA	1447	G
1	XA	1452	C
1	XA	1453	G
1	XA	1454	G
1	XA	1492	A
1	XA	1493	A
1	XA	1499	A
1	XA	1502	A
1	XA	1504	G
1	XA	1505	G
1	XA	1506	U
1	XA	1517	G
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
23	XX	7	G
23	XX	11	U
23	XX	12	A
23	XX	13	A
23	XX	14	A
24	YA	9	U
24	YA	15	G
24	YA	34	C
24	YA	35	G
24	YA	46	C
24	YA	55	G
24	YA	61	G
24	YA	63	U
24	YA	72	U
24	YA	74	A
24	YA	75	G
24	YA	101	G
24	YA	102	G
24	YA	103	A
24	YA	118	A

Continued on next page...

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Mol	Chain	Res	Type
24	YA	120	U
24	YA	125	G
24	YA	140	A
24	YA	161	U
24	YA	162	U
24	YA	181	A
24	YA	196	A
24	YA	199	A
24	YA	214	G
24	YA	216	A
24	YA	221	A
24	YA	222	A
24	YA	223	A
24	YA	226	G
24	YA	228	A
24	YA	229	A
24	YA	230	U
24	YA	232	G
24	YA	241	A
24	YA	242	G
24	YA	243	U
24	YA	248	G
24	YA	249	C
24	YA	252	G
24	YA	265	A
24	YA	266	G
24	YA	270(L)	U
24	YA	270(M)	U
24	YA	270(N)	G
24	YA	270(P)	C
24	YA	271(C)	U
24	YA	271(D)	G
24	YA	274	G
24	YA	275	G
24	YA	276	A
24	YA	278	A
24	YA	279	C
24	YA	299	A
24	YA	300	A
24	YA	311	A
24	YA	323	G
24	YA	324	A

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Mol	Chain	Res	Type
24	YA	329	G
24	YA	330	A
24	YA	332	A
24	YA	352	G
24	YA	363	G
24	YA	363(E)	U
24	YA	364	C
24	YA	371	A
24	YA	372	G
24	YA	386	G
24	YA	387	U
24	YA	395	U
24	YA	405	U
24	YA	406	G
24	YA	411	G
24	YA	412	A
24	YA	428	A
24	YA	443	A
24	YA	444	C
24	YA	448	U
24	YA	451	C
24	YA	457	A
24	YA	458	G
24	YA	467	G
24	YA	470	A
24	YA	481	G
24	YA	504	U
24	YA	505	A
24	YA	509	C
24	YA	511	U
24	YA	518	G
24	YA	527	C
24	YA	529	A
24	YA	530	G
24	YA	531	C
24	YA	532	A
24	YA	533	G
24	YA	537	C
24	YA	539	G
24	YA	540	G
24	YA	546	C
24	YA	547	A

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Mol	Chain	Res	Type
24	YA	563	G
24	YA	566	U
24	YA	568	U
24	YA	571	A
24	YA	573	G
24	YA	575	A
24	YA	600	G
24	YA	603	A
24	YA	607	U
24	YA	614	U
24	YA	617	G
24	YA	621	A
24	YA	627	A
24	YA	637	A
24	YA	638	G
24	YA	645	C
24	YA	646	A
24	YA	647	G
24	YA	651	G
24	YA	654	A
24	YA	654(A)	G
24	YA	668	G
24	YA	669	G
24	YA	686	G
24	YA	717	G
24	YA	722	A
24	YA	726	G
24	YA	730	C
24	YA	753	C
24	YA	764	A
24	YA	765	G
24	YA	782	A
24	YA	784	A
24	YA	785	G
24	YA	789	A
24	YA	790	C
24	YA	791	C
24	YA	792	G
24	YA	805	G
24	YA	812	C
24	YA	819	A
24	YA	827	U

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Mol	Chain	Res	Type
24	YA	828	U
24	YA	831	G
24	YA	847	U
24	YA	856	C
24	YA	857	C
24	YA	859	G
24	YA	860	U
24	YA	866	A
24	YA	880	G
24	YA	881	G
24	YA	882	G
24	YA	884	C
24	YA	885	C
24	YA	886	C
24	YA	888	C
24	YA	889	C
24	YA	896	A
24	YA	897	C
24	YA	900	A
24	YA	907	U
24	YA	910	A
24	YA	915	C
24	YA	917	A
24	YA	941	A
24	YA	945	A
24	YA	946	G
24	YA	953	A
24	YA	957	A
24	YA	959	A
24	YA	961	C
24	YA	973	A
24	YA	974	G
24	YA	974(A)	C
24	YA	975	G
24	YA	980	A
24	YA	983	A
24	YA	996	A
24	YA	1005	C
24	YA	1009	A
24	YA	1010	A
24	YA	1011	G
24	YA	1012	U

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Mol	Chain	Res	Type
24	YA	1013	C
24	YA	1022	G
24	YA	1023	U
24	YA	1026	U
24	YA	1027	A
24	YA	1033	U
24	YA	1046	A
24	YA	1047	G
24	YA	1050	A
24	YA	1054	A
24	YA	1059	G
24	YA	1060	U
24	YA	1061	U
24	YA	1062	G
24	YA	1065	U
24	YA	1067	A
24	YA	1068	G
24	YA	1070	A
24	YA	1071	G
24	YA	1073	A
24	YA	1077	A
24	YA	1078	U
24	YA	1082	U
24	YA	1083	U
24	YA	1084	A
24	YA	1085	A
24	YA	1086	A
24	YA	1088	A
24	YA	1089	G
24	YA	1093	G
24	YA	1096	A
24	YA	1097	U
24	YA	1103	A
24	YA	1104	C
24	YA	1110	G
24	YA	1111	A
24	YA	1122	G
24	YA	1126	A
24	YA	1130	U
24	YA	1135	C
24	YA	1136	G
24	YA	1139	G

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Mol	Chain	Res	Type
24	YA	1142	U
24	YA	1142(A)	A
24	YA	1151	G
24	YA	1169	G
24	YA	1173	G
24	YA	1174	A
24	YA	1175	U
24	YA	1176	G
24	YA	1179	C
24	YA	1180	C
24	YA	1204	A
24	YA	1205	U
24	YA	1211	U
24	YA	1220	A
24	YA	1221	C
24	YA	1236	G
24	YA	1238	G
24	YA	1244	G
24	YA	1248	G
24	YA	1250	G
24	YA	1253	A
24	YA	1256	G
24	YA	1265	A
24	YA	1271	G
24	YA	1272	A
24	YA	1273	U
24	YA	1300	U
24	YA	1301	A
24	YA	1325	G
24	YA	1329	U
24	YA	1349	A
24	YA	1352	U
24	YA	1355	G
24	YA	1365	A
24	YA	1368	G
24	YA	1370	C
24	YA	1378	A
24	YA	1379	A
24	YA	1384	A
24	YA	1385	G
24	YA	1392	A
24	YA	1395	A

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Mol	Chain	Res	Type
24	YA	1407	C
24	YA	1411	C
24	YA	1412	A
24	YA	1416	G
24	YA	1419	A
24	YA	1420	U
24	YA	1421	G
24	YA	1428	C
24	YA	1444(A)	A
24	YA	1445	C
24	YA	1449	A
24	YA	1449(A)	G
24	YA	1455	G
24	YA	1459	G
24	YA	1460	A
24	YA	1461	G
24	YA	1467	C
24	YA	1471	A
24	YA	1478	G
24	YA	1482	U
24	YA	1483	G
24	YA	1487	G
24	YA	1490	A
24	YA	1493	C
24	YA	1494	A
24	YA	1496	A
24	YA	1497	U
24	YA	1507	A
24	YA	1508	A
24	YA	1509	C
24	YA	1510	A
24	YA	1511	A
24	YA	1515	C
24	YA	1517	G
24	YA	1520	U
24	YA	1522	G
24	YA	1534	G
24	YA	1535	U
24	YA	1536	A
24	YA	1537	C
24	YA	1540	G
24	YA	1543	A

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Mol	Chain	Res	Type
24	YA	1544	C
24	YA	1545	A
24	YA	1546	C
24	YA	1558	A
24	YA	1559	G
24	YA	1566	A
24	YA	1569	A
24	YA	1578	U
24	YA	1580	A
24	YA	1581	G
24	YA	1585	C
24	YA	1586	A
24	YA	1591	G
24	YA	1598	C
24	YA	1608	A
24	YA	1609	A
24	YA	1610	A
24	YA	1616	A
24	YA	1617	C
24	YA	1618	A
24	YA	1640	C
24	YA	1646	C
24	YA	1647	G
24	YA	1648	C
24	YA	1654	A
24	YA	1669	A
24	YA	1670	C
24	YA	1674	G
24	YA	1675	C
24	YA	1693	U
24	YA	1695	G
24	YA	1725	G
24	YA	1728	G
24	YA	1729	A
24	YA	1730	U
24	YA	1731	G
24	YA	1732	A
24	YA	1743	G
24	YA	1750	G
24	YA	1753	G
24	YA	1754	C
24	YA	1756	G

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Mol	Chain	Res	Type
24	YA	1762	A
24	YA	1763	G
24	YA	1764	G
24	YA	1773	A
24	YA	1779	U
24	YA	1780	A
24	YA	1781	C
24	YA	1784	A
24	YA	1787	A
24	YA	1791	A
24	YA	1799	G
24	YA	1800	C
24	YA	1801	G
24	YA	1815	A
24	YA	1816	G
24	YA	1829	A
24	YA	1835	G
24	YA	1847	A
24	YA	1858	G
24	YA	1869	G
24	YA	1870	C
24	YA	1871	A
24	YA	1872	A
24	YA	1878	G
24	YA	1882	C
24	YA	1889	A
24	YA	1899	G
24	YA	1903	G
24	YA	1906	G
24	YA	1914	C
24	YA	1919	A
24	YA	1929	G
24	YA	1930	G
24	YA	1931	U
24	YA	1936	A
24	YA	1938	A
24	YA	1939	U
24	YA	1940	U
24	YA	1955	U
24	YA	1956	U
24	YA	1960	A
24	YA	1963	U

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Mol	Chain	Res	Type
24	YA	1967	C
24	YA	1968	G
24	YA	1969	A
24	YA	1970	A
24	YA	1971	A
24	YA	1972	A
24	YA	1982	C
24	YA	1992	G
24	YA	1993	U
24	YA	2020	A
24	YA	2021	C
24	YA	2023	G
24	YA	2031	A
24	YA	2033	A
24	YA	2043	C
24	YA	2052	G
24	YA	2055	C
24	YA	2056	G
24	YA	2059	A
24	YA	2060	A
24	YA	2061	G
24	YA	2062	A
24	YA	2069	G
24	YA	2093	G
24	YA	2100	G
24	YA	2111	C
24	YA	2112	G
24	YA	2114	A
24	YA	2115	G
24	YA	2116	G
24	YA	2118	U
24	YA	2119	A
24	YA	2120	G
24	YA	2126	A
24	YA	2127	G
24	YA	2131	G
24	YA	2132	U
24	YA	2133	G
24	YA	2136	C
24	YA	2146	C
24	YA	2147	G
24	YA	2148	G

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Mol	Chain	Res	Type
24	YA	2156	G
24	YA	2157	G
24	YA	2158	A
24	YA	2166	G
24	YA	2167	U
24	YA	2168	G
24	YA	2169	A
24	YA	2171	A
24	YA	2173	A
24	YA	2176	A
24	YA	2180	U
24	YA	2189	U
24	YA	2190	G
24	YA	2192	G
24	YA	2198	A
24	YA	2210	G
24	YA	2211	G
24	YA	2212	A
24	YA	2213	U
24	YA	2215	G
24	YA	2225	A
24	YA	2238	G
24	YA	2239	G
24	YA	2243	U
24	YA	2266	A
24	YA	2275	C
24	YA	2279	G
24	YA	2280	G
24	YA	2283	C
24	YA	2287	A
24	YA	2288	A
24	YA	2307	G
24	YA	2308	G
24	YA	2309	A
24	YA	2311	A
24	YA	2320	A
24	YA	2325	G
24	YA	2334	G
24	YA	2335	A
24	YA	2343	C
24	YA	2345	G
24	YA	2346	A

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Mol	Chain	Res	Type
24	YA	2347	C
24	YA	2350	C
24	YA	2354	G
24	YA	2372	G
24	YA	2383	G
24	YA	2385	C
24	YA	2392	A
24	YA	2396	G
24	YA	2402	C
24	YA	2403	C
24	YA	2406	U
24	YA	2410	G
24	YA	2423	U
24	YA	2425	A
24	YA	2427	C
24	YA	2428	G
24	YA	2429	G
24	YA	2430	A
24	YA	2435	A
24	YA	2439	A
24	YA	2441	C
24	YA	2447	G
24	YA	2448	A
24	YA	2450	A
24	YA	2469	A
24	YA	2475	C
24	YA	2478	A
24	YA	2494	G
24	YA	2498	C
24	YA	2502	G
24	YA	2504	U
24	YA	2505	G
24	YA	2518	A
24	YA	2542	A
24	YA	2543	G
24	YA	2554	U
24	YA	2566	A
24	YA	2567	G
24	YA	2572	A
24	YA	2573	C
24	YA	2582	G
24	YA	2602	A

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Mol	Chain	Res	Type
24	YA	2609	U
24	YA	2611	U
24	YA	2612	C
24	YA	2615	U
24	YA	2629	A
24	YA	2654	A
24	YA	2655	G
24	YA	2656	U
24	YA	2665	A
24	YA	2673	G
24	YA	2682	U
24	YA	2689	U
24	YA	2701	C
24	YA	2702	U
24	YA	2707	G
24	YA	2712	U
24	YA	2712(A)	A
24	YA	2713	A
24	YA	2714	G
24	YA	2724	C
24	YA	2726	U
24	YA	2733	A
24	YA	2739	U
24	YA	2744	G
24	YA	2748	A
24	YA	2749	A
24	YA	2751	G
24	YA	2757	A
24	YA	2762	G
24	YA	2764	A
24	YA	2765	A
24	YA	2766	G
24	YA	2777	G
24	YA	2778	A
24	YA	2779	U
24	YA	2790	A
24	YA	2791	C
24	YA	2797	U
24	YA	2807	G
24	YA	2808	U
24	YA	2818	G
24	YA	2820	A

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Mol	Chain	Res	Type
24	YA	2821	A
24	YA	2833	G
24	YA	2834	G
24	YA	2835	A
24	YA	2836	U
24	YA	2845	G
24	YA	2847	U
24	YA	2867	G
24	YA	2868	A
24	YA	2872	G
24	YA	2879	C
24	YA	2891	G
24	YA	2892	A
24	YA	2893	G
24	YA	2894	G
25	YB	8	U
25	YB	9	G
25	YB	13	A
25	YB	15	A
25	YB	16	G
25	YB	19	G
25	YB	25	A
25	YB	40	U
25	YB	41	U
25	YB	42	C
25	YB	44	G
25	YB	45	A
25	YB	52	A
25	YB	56	G
25	YB	67	G
25	YB	73	A
25	YB	81	G
25	YB	82	G
25	YB	89	G
25	YB	108	C
25	YB	109	G
22	XV	4	U
22	XV	5	G
22	XV	8	U
22	XV	18	U
22	XV	19	G
22	XV	20	G

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Mol	Chain	Res	Type
22	XV	22	A
22	XV	48	U
22	XV	49	C
22	XV	55	U
22	XV	58	G
22	XV	64	U
22	XV	65	C
22	XV	66	U
22	XV	68	U
22	XV	76	C
22	XV	77	A

All (157) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	5	U
1	QA	64	G
1	QA	115	G
1	QA	119	A
1	QA	181	G
1	QA	243	A
1	QA	244	U
1	QA	250	A
1	QA	266	G
1	QA	328	C
1	QA	410	G
1	QA	412	A
1	QA	429	U
1	QA	481	G
1	QA	484	G
1	QA	485	G
1	QA	509	A
1	QA	687	A
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	812	C
1	QA	913	A
1	QA	960	U
1	QA	992	U
1	QA	1064	G
1	QA	1065	U

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Mol	Chain	Res	Type
1	QA	1200	C
1	QA	1201	A
1	QA	1285	A
1	QA	1297	C
1	QA	1336	C
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1498	U
1	QA	1528	U
22	QV	54	G
23	QX	15	A
23	QX	21	G
24	RA	74	A
24	RA	99	U
24	RA	221	A
24	RA	222	A
24	RA	229	A
24	RA	271(B)	G
24	RA	345	A
24	RA	372	G
24	RA	404	C
24	RA	503	A
24	RA	508	G
24	RA	512	G
24	RA	587	C
24	RA	637	A
24	RA	730	C
24	RA	752	A
24	RA	774	A
24	RA	846	C
24	RA	856	C
24	RA	1022	G
24	RA	1026	U
24	RA	1045	A
24	RA	1085	A
24	RA	1210	A
24	RA	1312	U
24	RA	1427	A
24	RA	1473	G
24	RA	1558	A
24	RA	1653	G

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Mol	Chain	Res	Type
24	RA	1819	A
24	RA	1980	G
24	RA	1992	G
24	RA	2060	A
24	RA	2126	A
24	RA	2439	A
24	RA	2566	A
24	RA	2582	G
24	RA	2610	C
24	RA	2689	U
24	RA	2756	U
24	RA	2832	U
25	RB	66	A
1	XA	60	A
1	XA	64	G
1	XA	78	G
1	XA	115	G
1	XA	243	A
1	XA	244	U
1	XA	250	A
1	XA	266	G
1	XA	328	C
1	XA	345	C
1	XA	410	G
1	XA	412	A
1	XA	481	G
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	687	A
1	XA	703	G
1	XA	753	A
1	XA	812	C
1	XA	913	A
1	XA	991	U
1	XA	992	U
1	XA	1027	C
1	XA	1285	A
1	XA	1297	C
1	XA	1310	G
1	XA	1336	C
1	XA	1446	A

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Mol	Chain	Res	Type
1	XA	1498	U
23	XX	12	A
24	YA	99	U
24	YA	195	A
24	YA	221	A
24	YA	229	A
24	YA	242	G
24	YA	271(B)	G
24	YA	278	A
24	YA	404	C
24	YA	503	A
24	YA	530	G
24	YA	637	A
24	YA	752	A
24	YA	846	C
24	YA	856	C
24	YA	859	G
24	YA	974(A)	C
24	YA	1012	U
24	YA	1022	G
24	YA	1026	U
24	YA	1085	A
24	YA	1109	C
24	YA	1178	C
24	YA	1204	A
24	YA	1210	A
24	YA	1427	A
24	YA	1460	A
24	YA	1508	A
24	YA	1558	A
24	YA	1653	G
24	YA	1694	C
24	YA	1786	A
24	YA	1799	G
24	YA	1930	G
24	YA	1955	U
24	YA	1992	G
24	YA	2566	A
24	YA	2610	C
24	YA	2681	C
24	YA	2712	U
24	YA	2776	A

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Mol	Chain	Res	Type
24	YA	2832	U
24	YA	2867	G
25	YB	66	A
22	XV	54	G

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 1022 ligands modelled in this entry, 1020 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
56	SF4	XD	301	4	0,12,12	-	-	-		
56	SF4	QD	301	4	0,12,12	-	-	-		

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	SF4	XD	301	4	-	-	0/6/5/5
56	SF4	QD	301	4	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	XD	301	SF4	3	0
56	QD	301	SF4	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

EDS failed to run properly - this section is therefore empty.

6.2 Non-standard residues in protein, DNA, RNA chains

EDS failed to run properly - this section is therefore empty.

6.3 Carbohydrates

EDS failed to run properly - this section is therefore empty.

6.4 Ligands

EDS failed to run properly - this section is therefore empty.

6.5 Other polymers

EDS failed to run properly - this section is therefore empty.